

The Seal

By

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ABSTRACT

The Seal is a single-player puzzle-platformer game for PC. In *The Seal*, the player must navigate a series of puzzle rooms, carrying a large circular stone across each room. The structure of the game mirrors popular stories of treasure-seeking adventurers such as Indiana Jones, but with the central struggle reversed: instead of crossing a perilous environment concluding in an act of taking, *The Seal* instead sees its protagonist crossing a perilous environment concluding in an act of giving. *The Seal* asks the player to examine the necessity of acts of theft and personal aggrandizement that are often encountered uncritically in video games. In this way, *The Seal* argues that recurring themes of theft and colonialism in games are not fundamental to the medium itself and that a game can be structured without or even in opposition to these themes.

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Thank you to Rob Zubek for all that you've taught me through your writing, for helping to put together the Chicago Game Lab and fostering a communal space where I did so much of the work on this project, for your feedback and advice during the development of the project, and for serving on my committee.

Thank you to my Game Lab officemates Sebastian Gosztyla and Greg Wohlwend for the time you spent playtesting my game, for your design advice, and for your enthusiasm. Your friendship, wisdom, and humor were an enormous help in finishing this project, especially on the very slow days when I just couldn't find it in me to be excited to work on it.

Thank you to Eva Pearce for your candor and feedback in playing *The Seal* ("that toilet game", as you call it). While I know you still think the stone looks a little bit like a toilet paper roll, it currently looks *less* like a toilet paper roll than it did in earlier versions thanks to your honest feedback: the type of honesty that can only come from children.

Lastly, I'd like to thank my wife, Rebecca Poulson. Thank you for your companionship, for picking up the slack when I needed it most, and for supporting me through this project even as you worked through your own graduate thesis. Thank you for all you put up with through my grad school tenure, for playing all my games and for your design feedback. I love you more than ever and I'm so happy and proud to call you my partner.

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CHAPTER 1

Description of Game

The Seal is a single-player puzzle-platform game for PC. The game may be played using either a keyboard or a gamepad, depending on the preference of the player.

The game is rendered in 3D but is presented similarly to a two-dimensional platforming game: a third-person perspective shows the player character from the side. The player can move left and right (generally towards the right to make progress), jump, push certain blocks (in the style of *Sokoban*), and pull levers. *The Seal* additionally has “lanes” of depth, usually between 2 and 4 lanes of depth in each area of the game. The player may move between the lanes freely while on the ground but may not change lanes while jumping.

The player is accompanied by the “stone” – a disc-shaped object with a hole in the middle. The player may pick up the stone, at which point the stone is affixed to the player’s head; functionally the stone appears to be the player’s face when it is held. The stone is not affixed to the player’s face permanently: the player may put the stone down at any time. The stone is affected by physics: placed upon a slope, the stone will roll according to gravity, although it will never change lanes.

While the player is holding the stone, they may not jump, push blocks, or pull levers. The player must put the stone down in order to perform these additional actions. Additionally, at various points in the game there are “mites” that search for and steal the stone if it is not held by the player. Like the stone itself, the mites are not named explicitly in the game.

The game is segmented into a series of rooms connected by doors. The player’s objective in each room is to carry the stone across the room from the entrance door to the exit door, although at no point in the game is this goal explained to the player explicitly or is the stone (or the protagonist) given a name. In each room, the room’s exit door leading to the following room is only open while holding the stone; the player cannot make progress *without* the stone.

Through the course of the game, the player carries the stone through a series of rooms, culminating in a room that has no exit door. In this room, the player’s only option is to leave the stone on a pedestal, at which point the entrance door to the room opens once again and becomes the exit room. The player is invited to cross through every room once again, albeit without the stone. In each room, what was once the entrance door is now the exit door, and is the player’s only open path. When the player returns to the first room of the game, a previously-closed door is now open, which the player may walk through. At this point, the game is over and the credits are shown.

CHAPTER 2

Statement of Intent

In making this game, I sought to question some of the most common tropes of the video game medium, while also connecting the structure overall to past games so that players could intuitively understand how to make progress within the game.

Themes of personal aggrandizement are common in the medium of video games, often encountered uncritically and from the perspective that they are neutral, innocent, or not explicitly supported by the game's structure. It is perhaps an extreme interpretation to say that the original Super Mario Bros game is a story in which the player as Mario is encouraged to traverse the Mushroom Kingdom committing a series of thefts and murders, but these are the options that the players are given: take coins and stomp on Goombas.

When playing *The Seal*, players encounter the opposite phenomenon; instead of being given only the option to steal without explicit instruction to do so, players are given only the option to *give* without explicit instruction to do so. It is my hope that players will ask "why am I returning/donating this object?" and engage with the narrative ambiguity, and that in doing so, players may ask similar questions of other games when they play them.

The narrative elements of the game are intentionally ambiguous, so as to invite the player to interpret the story of the game in the way they see fit. It is my hope that different players who play through the game have different interpretations of what the game means, and that by playing the game they feel invited to participate in forming the game's meaning. Although I have my own interpretation of what the events and the objects in the game represent, this interpretation is not meant to serve as the sole *correct* interpretation, but instead as just one of many valid interpretations.

By contrast to the narrative structure's open-ended nature, the game's ludic structure is intended to be *unambiguous*, so that all players independently discover the same set of options and goals, even without specific prompting or reward structures. The game's decision structure is extremely narrow; in most cases, there is just one valid solution to each of the given puzzles. While the player is invited to give many interpretations of the game's events and symbolism, the game restricts the set of viable solutions available to the player.

At the game's climax, the player is locked in a room with a pedestal, and their only option is to give up the stone and leave without it. The player has no agency to decide *not* to return the stone. This room serves to underscore the difference between the player's motives and the *player character's* motives. Although the player may want to keep the stone, the player character is only

able to leave the stone; there is naturally a tension between what the player wants to do and what the player knows they *must* do. Ideally a player encountering this room for the first time will realize that they must leave the stone behind, but are reluctant to do so.

As a vehicle for inviting players to interpret the game's meaning and the meanings behind other games, *The Seal* also argues that it is progress alone that players see as a motivator or a reward. While explicit rewards can help players to understand that they are doing the "correct" thing, these rewards only function to frame the player's progress; the player's true goal is to make progress in the game, to consume it in its entirety as a form of media, and that the act of completion is a facet of the zeitgeist of games as media. If the player's actions result in the player seeing more game content, that is generally perceived to be an act of progress, even if it is not marked by some strengthening of the player character's in-game abilities or the accretion of some form of score or virtual wealth.

In *The Seal*, the player's only experience of ownership is with the stone, which they must relinquish at the game's climax. In this manner, *The Seal* is a game in which the player only gets poorer, not richer. Rather than structure the game as a series of rewards, *The Seal*'s entire reward schedule is that at some point, the player gives up their only attachment. Upon reaching the pedestal room, the player could instead turn the game off and decide that they have never given up the stone. *The Seal* assumes most players will not opt to behave in that manner: that players' true goals are not to become stronger or richer within the fiction of the game's world, but instead that they wish to complete the game as an act of cultural participation. Progress markers are thus seen not as being objects having intrinsic value, but as tools used by players to measure their participation in the game's culture. In this way the enrichment of the player and the enrichment of the player character are held in contrast: although the player character is losing or forfeiting an object of attachment, the player's pursuit of cultural knowledge enriches the player even as it impoverishes the player character.

CHAPTER 3

Link to the Game and Controls

The Seal is available for PC, downloadable publicly on itch.io:

<https://jordanorelli.itch.io/the-seal>

Controls: (keyboard)

Arrow Keys or WASD - move

Space - jump

E - interact (pick up or put down stone, toggle switches)

Backspace or Delete - Reset the level

Controls: (gamepad)

Control stick : move around

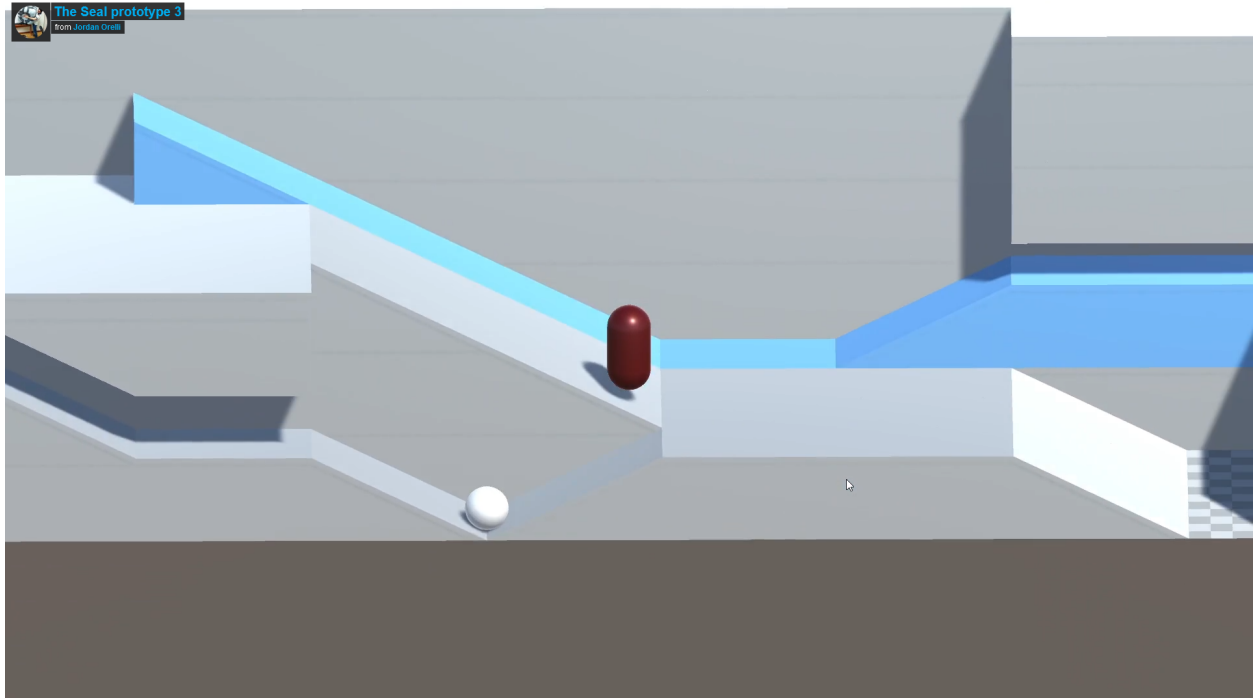
A (or the bottom button) - jump

X (or the left/west button) - interact (pick up or put down stone, toggle switches)

Select - Reset the level

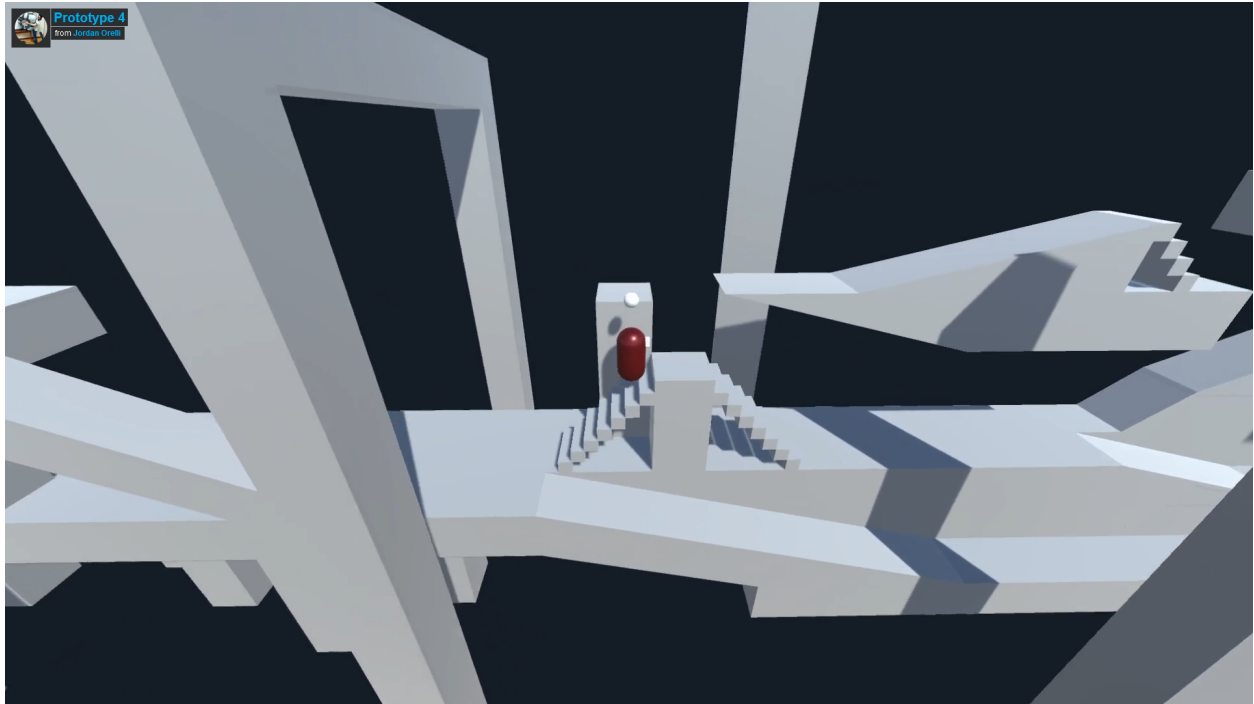
APPENDIX 1: Game Development Process

Early prototype: lane system test



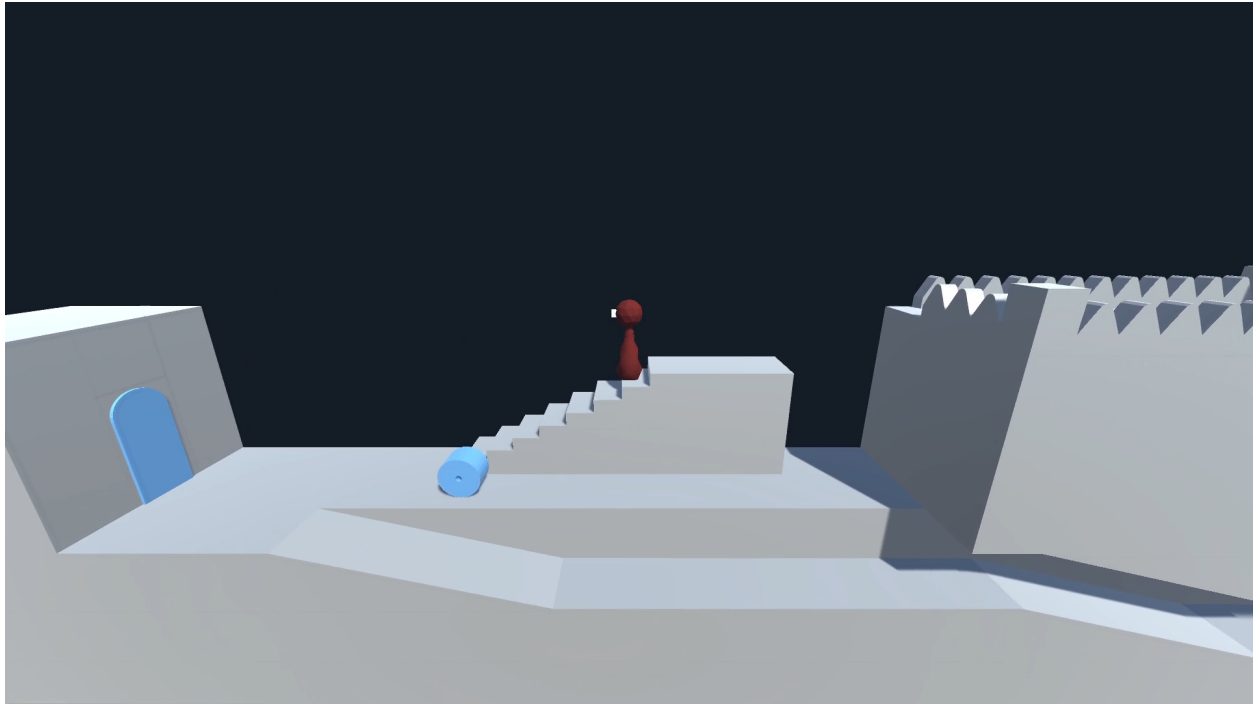
My earliest efforts at doing a full 3D game (not shown) were not to my liking. I prefer for the player to not need to control the camera, but I still wanted to have 3D puzzles. I felt that controlling the camera is an extra mental effort, and that I wanted the player's mental efforts to be focused on the puzzles. The lane system allowed for me to have 3D puzzles without needing very complex camera programming, so I started playing with a lane-oriented approach inspired by synthesizing the lane system of the NES game Excitebike with the early puzzle-platforming game Prince of Persia.

Early prototype: player movement with slopes, stairs, and cameras



With the basic layout decided, I started to play with some basic controls around slopes and staircases. Slopes allowed the stone (at that time a sphere) to roll up and down, while stairs prevented the stone's progress. At this stage I started to notice that when the artifact was a sphere instead of a disc shape, it could easily go off course, and so I decided to make it a disc shape so that it would always keep its heading once put down.

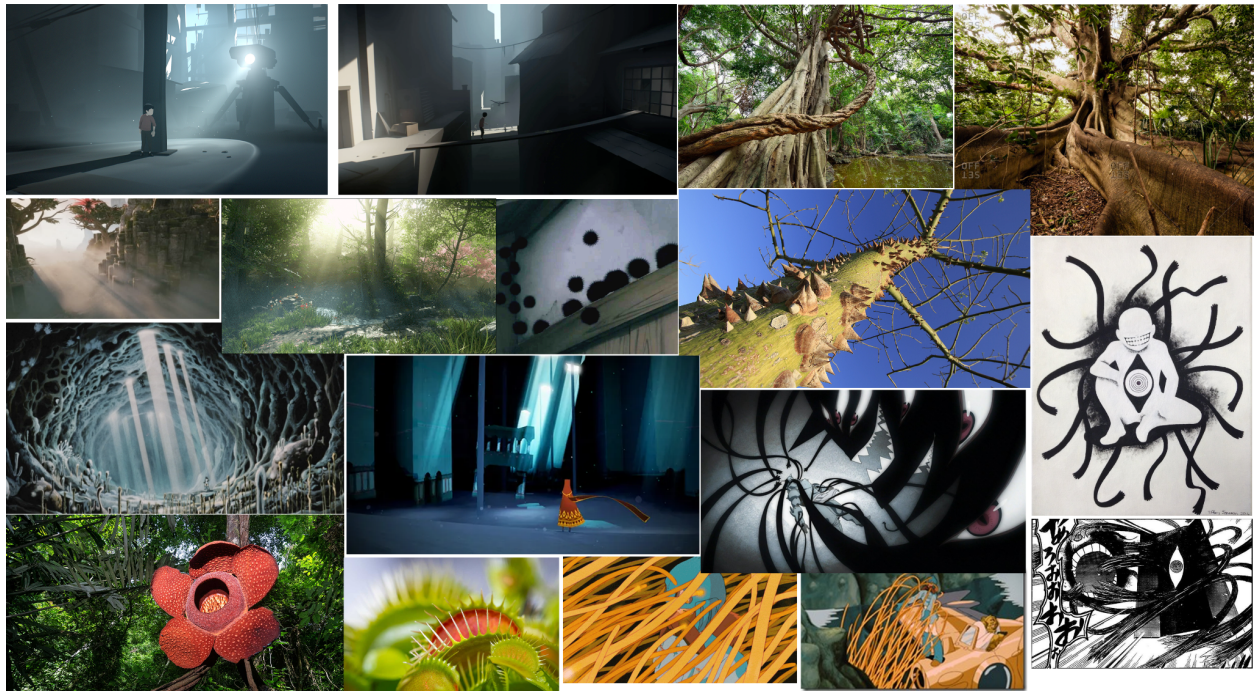
Early Puzzle prototypes



After playing with a spherical artifact, I landed on this barrel shape. The stone retained this shape and played well through several playtests, but was later changed in order to become a part of the protagonist's body. This shape gave me the type of physics that I thought made for good puzzle opportunities.

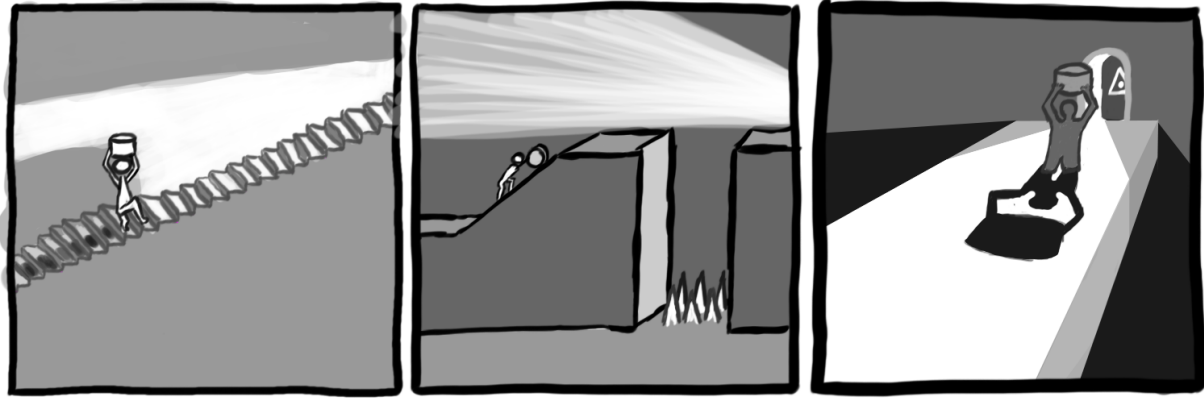
This is the first puzzle that I designed using this system. A modified version of this puzzle survived until the final project; it currently appears as the second challenge of the second room (shown on p31). With some basic structure understood, I took some time to think about what sort of visual and narrative treatments I would be able to execute.

Early Moodboards:

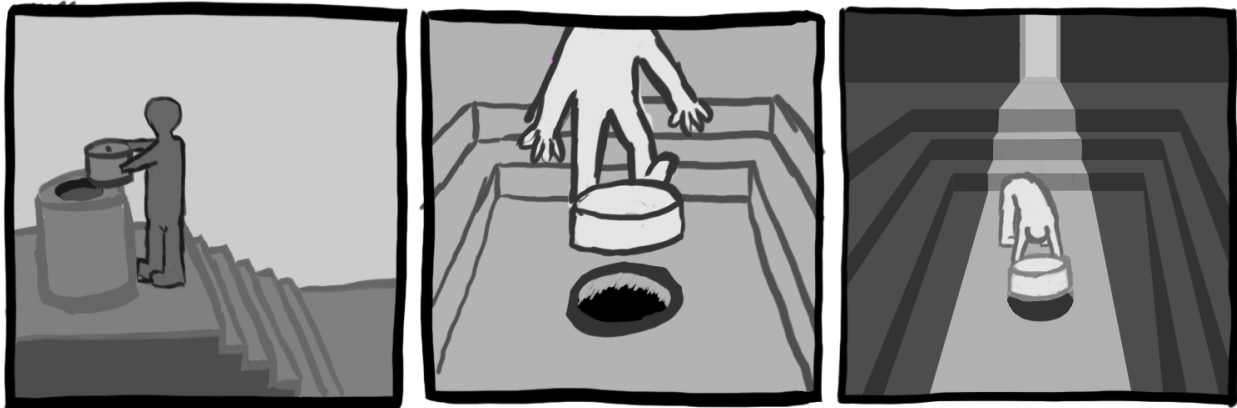


From the start, I was always interested in including volumetric effects in the lighting. One of my primary game inspirations is *INSIDE* (top left), which utilizes volumetric fog and chiaroscuro lighting. Earlier versions of the game concept focussed more on a naturalistic environment, and the design of the “mites” was less settled. The *susuwatari* (soot sprites) from Miyazaki’s *Spirited Away* served as the primary inspiration for the game’s enemies. Ultimately the game’s visual style became simplified over time; as a team of one, I was doing all of the 3D modeling myself, much of which I had very little experience with prior to this project.

Storyboarding major game events



In early conceiving, the player was shown carrying the stone above their head. During playtesting, players did not experience a connection with the stone, and so I opted to change the stone so that it would appear to be a part of the player character's body.

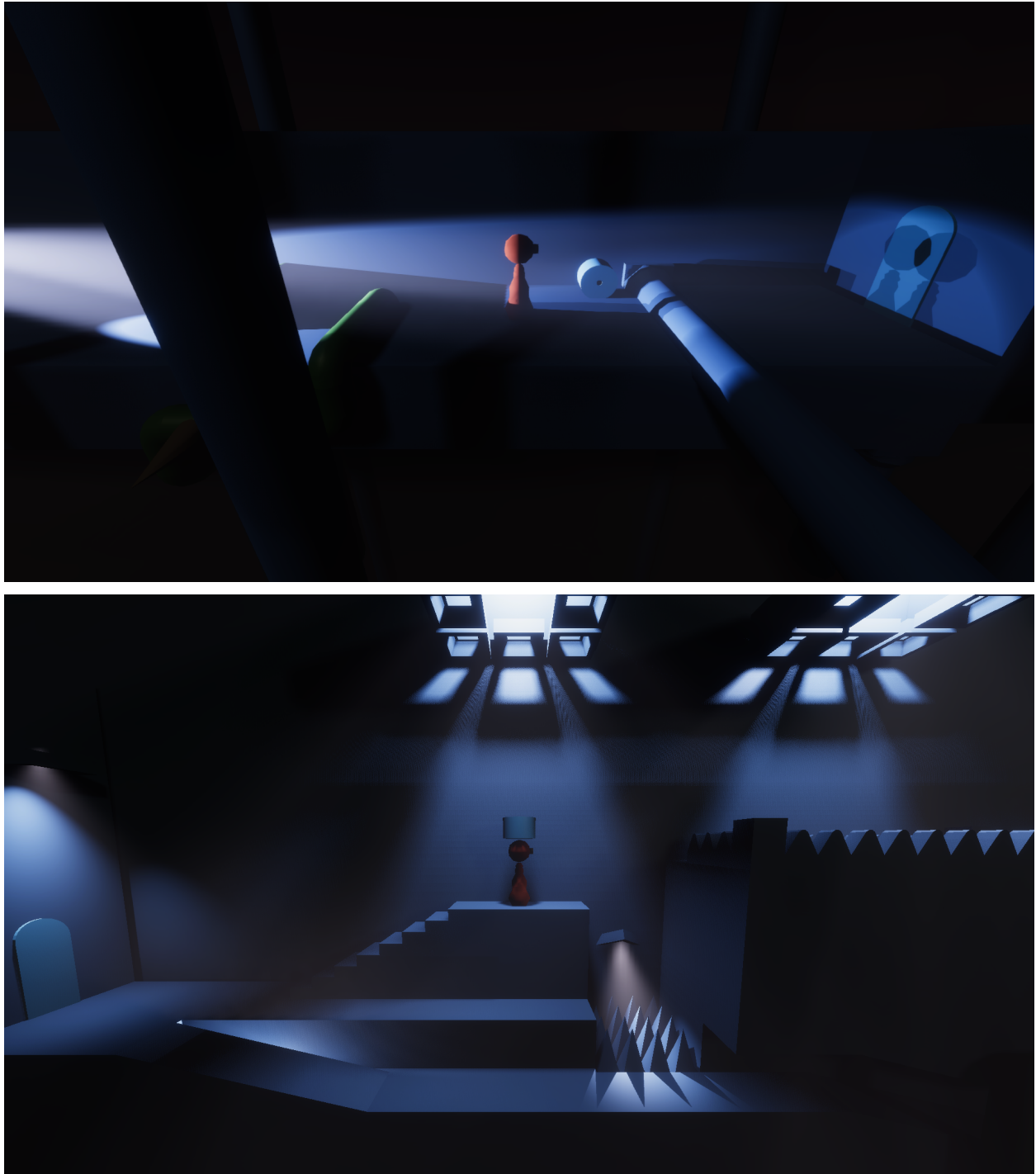


Initial concepts depicted the stone as covering a hole, but this was ultimately changed to be a pedestal.



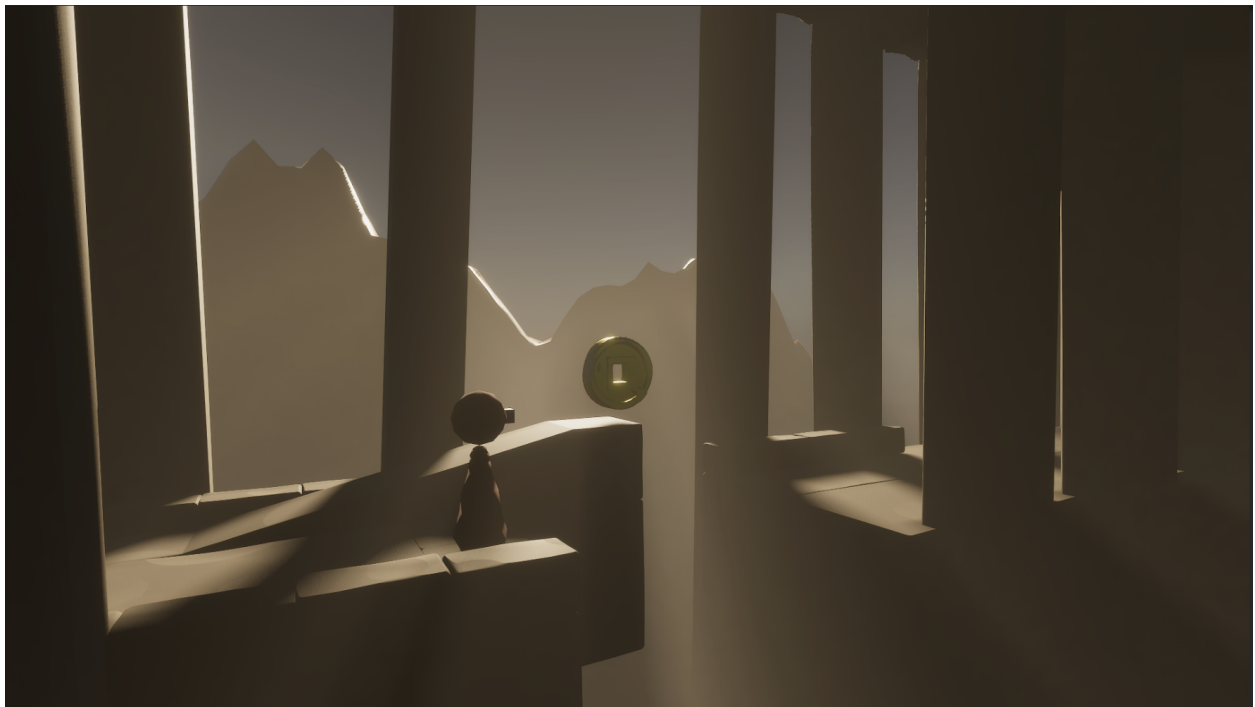
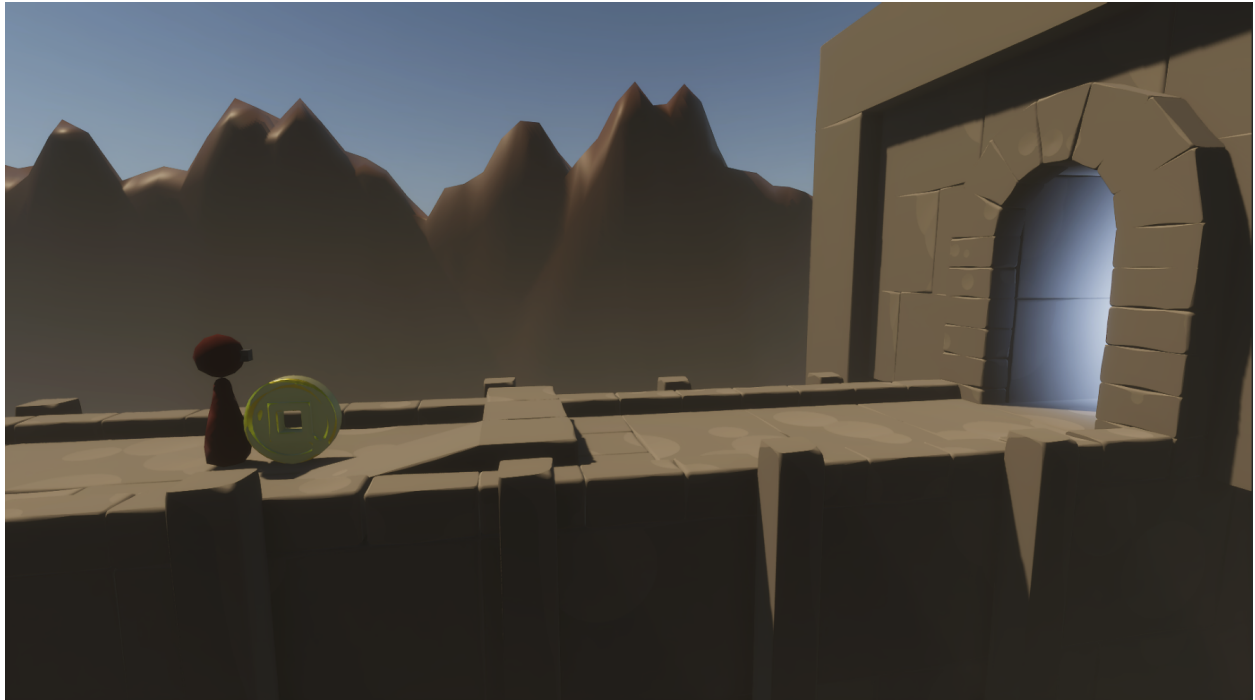
After returning the stone, the environment would be effectively disarmed; spikes would turn to flowers, and perhaps there was some sort of magical event at the time the stone was returned. This was largely cut for time.

Test Renders - prototype lighting



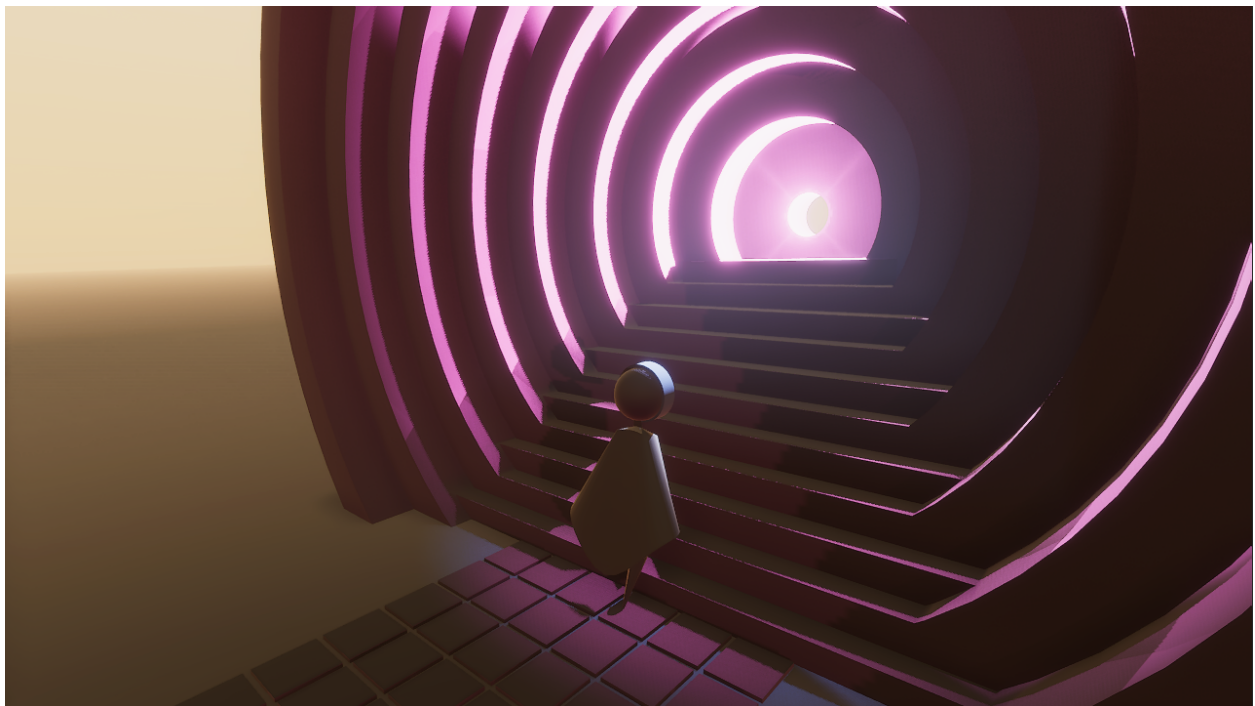
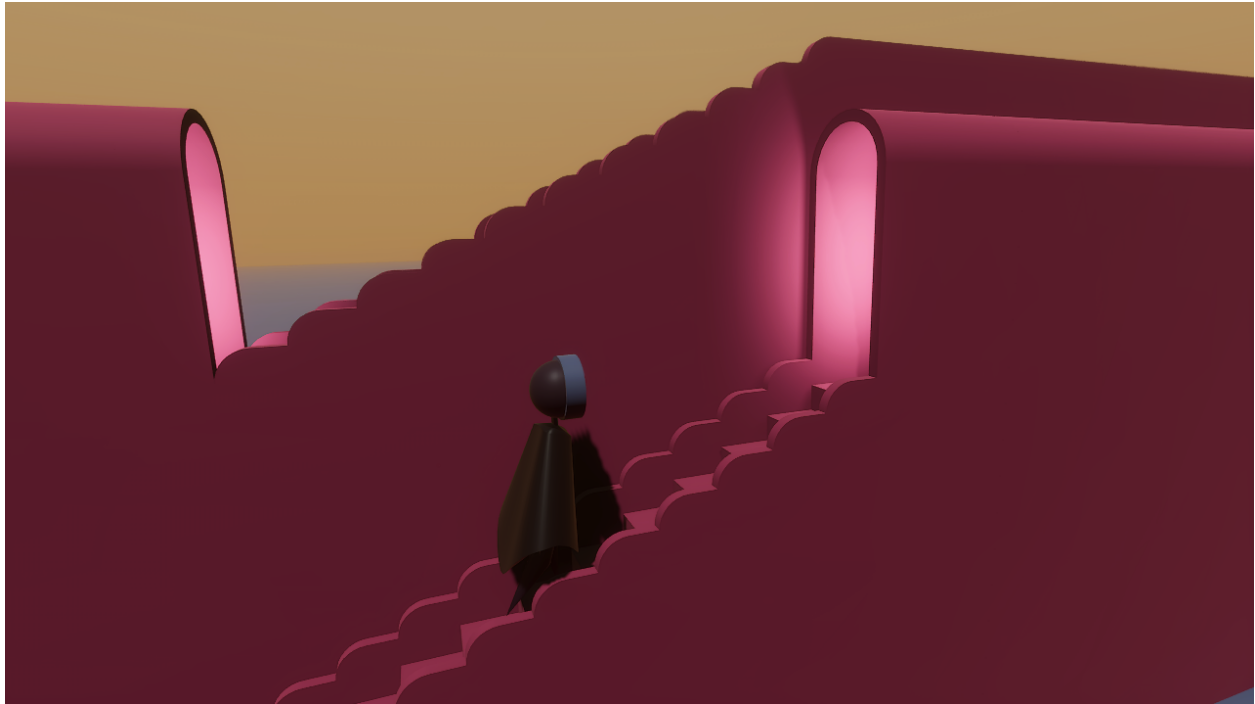
These early concept renders were used to explore what was possible inside of the rendering system for Unity 3D, the game engine that I used for the project. For this first style, I explored HDRP lighting and volumetric fog.

Test Renders - ancient temple



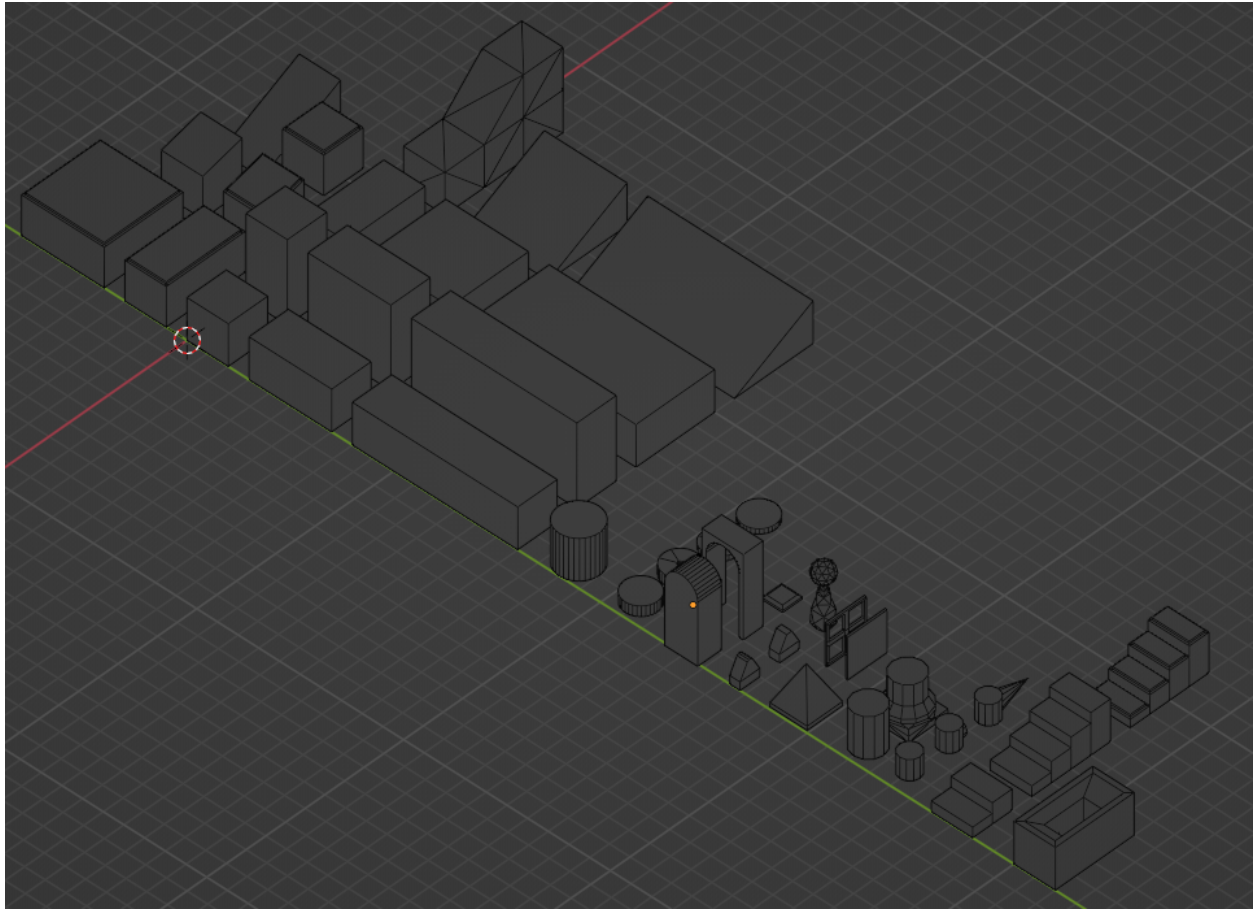
For this visual treatment I explored depicting the space as a literal stone temple and the artifact as a large gold coin, such that the game was much more connected to the history of treasure-seeking adventures. This proved to be distracting; instead of focusing on the player's act of sacrifice, it drew the attention more towards the origin of the treasure itself. It was also very time-consuming for me to produce, and I wasn't confident that I could make an entire game with this style.

Test Renders - dreamscape



At this point I started to think of the temple more metaphorically instead of literally. This freed me up to change the relationship between the character and the stone; this was the first style in which the stone was depicted as part of the protagonist's body. Although the initial concepts most resembled the second render (of the more literal ancient temple), the final project more heavily incorporated elements from the first and third test renders. This style relied too heavily on large set pieces, but I ultimately settled on a more modular, block-oriented style.

A palette of blocks



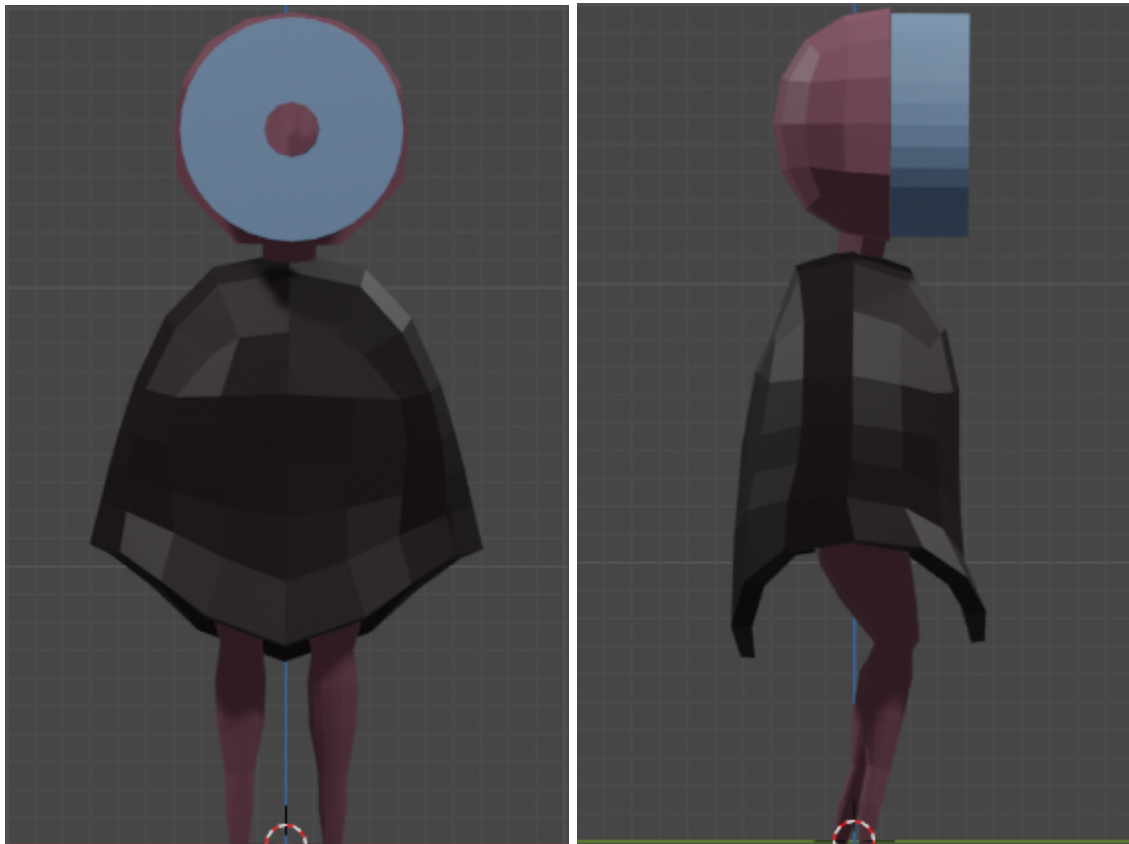
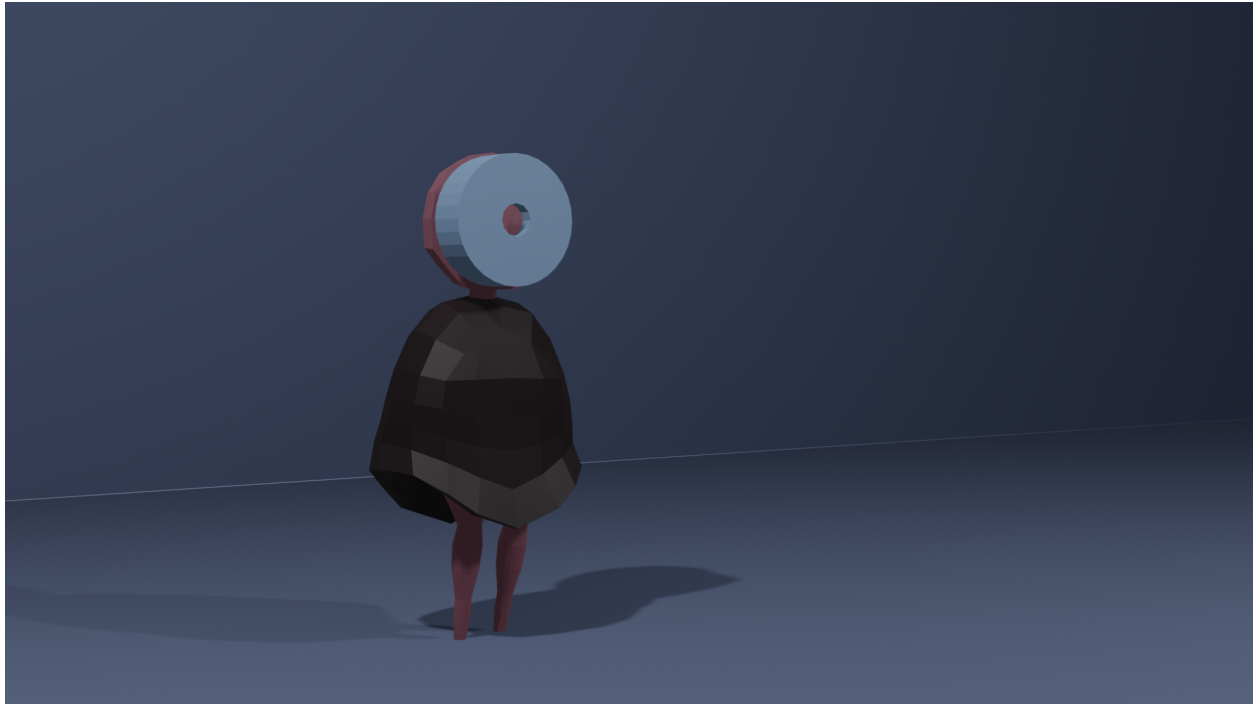
My third render style (p18) was my favorite, but it relied too heavily on individual set pieces. I was concerned that making a whole game in this style would be very difficult to produce, so I decided instead to build out a set of modular blocks for building levels. Shown above is a selection of the blocks used to assemble the levels; the game is made almost entirely from this relatively small set of elements.

Building a character

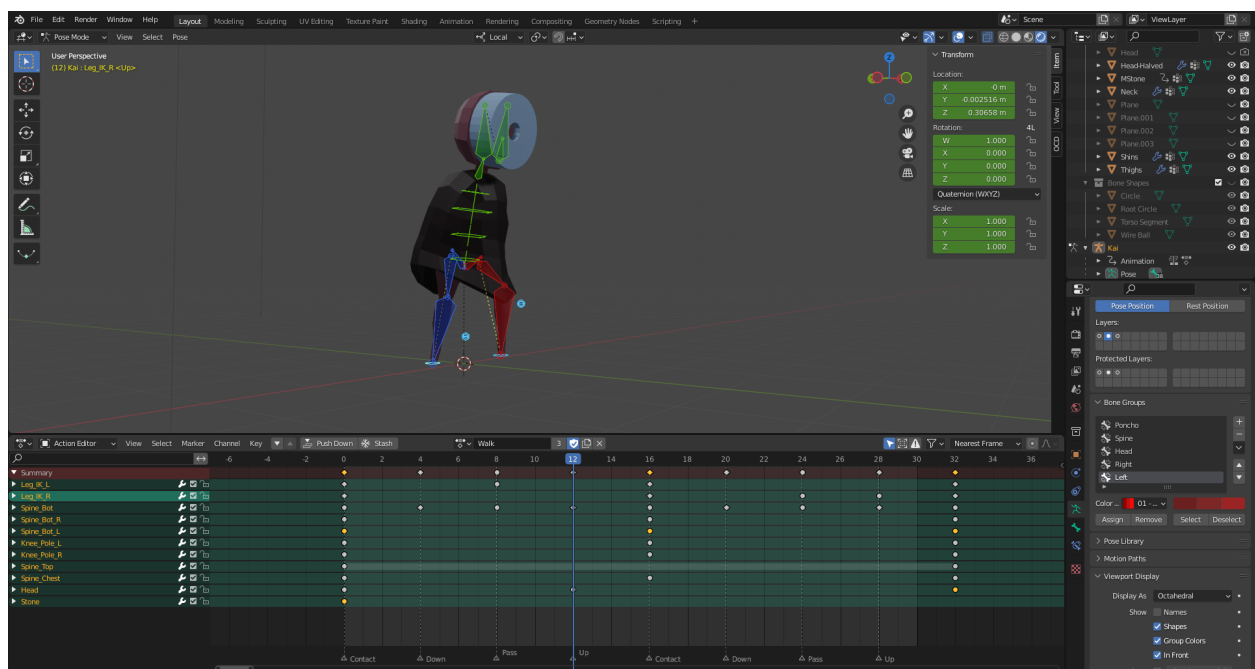
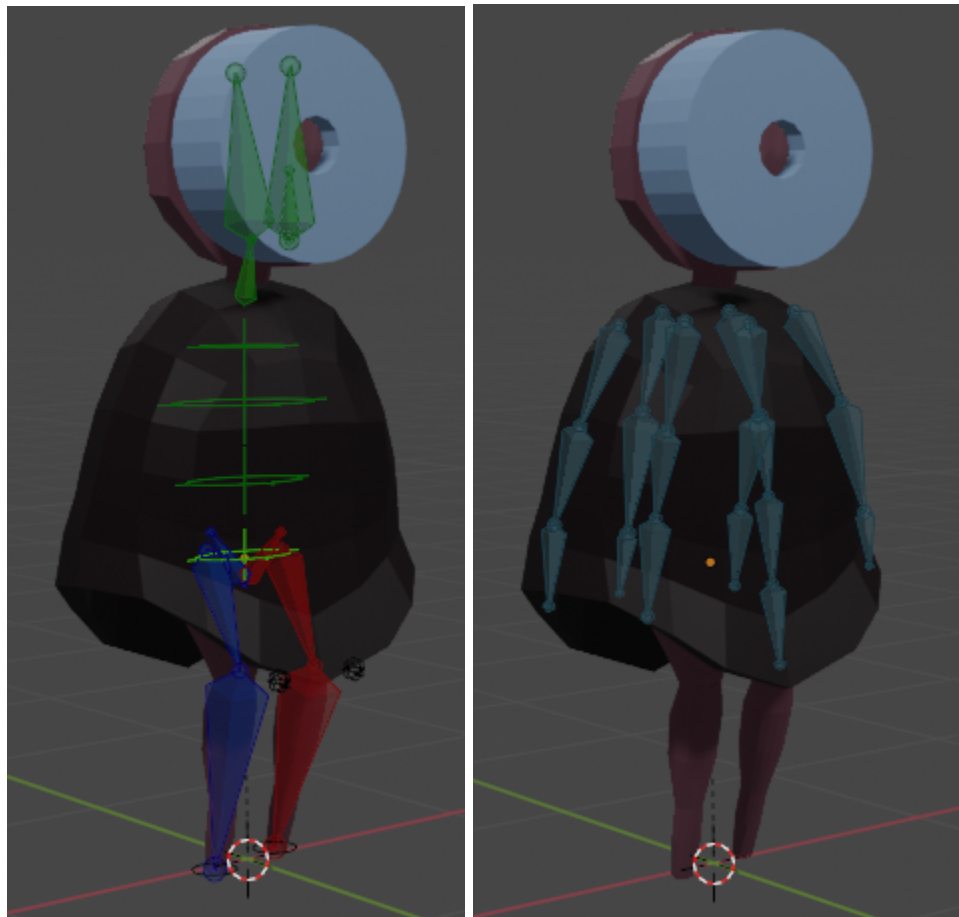
After doing some basic test renders, I started thinking about what my character might look like. I decided on keeping the character's gender ambiguous since it is not important to the story; any player should be able to relate to the character. Since playtesters had difficulty finding attachment to a stone they carried, I started sketching out ideas for what it would look like for a disc-shaped object to be a part of the character's body.



After some initial experimentation I sat down to render my character in 3D with Blender.



After modeling, I rigged and animated the character.



APPENDIX 2: Playtesting Results

Thanks to the support of Dr Mike DeAnda, I was very fortunate to have the opportunity to have my game playtested in multiple sittings by two undergraduate playtesting classes. Select responses from conducting playtesting surveys are reproduced here. Note that the responses included here are not the entirety of responses; they are the responses that most directly affected the development of the game. The responses are edited only for length.

When players were asked to describe their experiences with the puzzles, some of their responses contained useful information that was beyond the scope of my questioning. In regards to a puzzle involving rolling the stone down a slope, I asked the following question to playtesters in a survey:

Describe your experience with the first puzzle room, the room with the ramp

Players described the protagonist and the stone in a variety of ways:

- *It took me a second before I realized that once you put down **the mask** it will continue to roll, but once I did the puzzle became very clear.*
- *It felt intuitive to drop **my face** on the ramp because I had just been taught I need to drop my face in the previous room.*
- *Although it was supposed to show that high jump isnt possible with **the ball** i wouldnt have been able to tell on my own.*
- *I had no clue what to do honestly until I realized gravity affected **the rock**, but once that picked up it went very smoothly.*
- *I at first avoided it and went to the end without **my "head item"**. Once I realized I probably need it, I went back and started testing the ramp.*

Of the 26 responses to this question, players referred to the stone as either the stone, the rock, the ball, the mask, “my face”, or some variation of “my head item”. Since I considered it a goal of the project for players to engage with the narrative elements of the game on their own terms, I considered this very encouraging.

In my playtesting surveys, I asked the players two questions about the mites, which revealed a variety of interpretations of the players relationship to the mites and their identity. Given the following question:

Describe your experience with the fourth puzzle room, the room with the enemies

Players responded as follows:

- *At first I thought they were friends and then they stole my rock, but afterwards I realized using them to hold the button was necessary*
- *I thought they were little minions at first and I was worried they would attack me but all they did was follow me.*
- *After dropping my head a couple of times, I understood that they were attracted to the head.*
- *I had no clue that they were enemies because they reminded me of pikmin.*

Given the following question:

Based on their behavior, what do you think the enemies are?

Players responded as follows:

- *If they are animals, like rats or something? If not they seem to be sprites or fairies.*
- *Rock stealing gremlins*
- *Chickens*
- *Perhaps mice, or some non human peaks critter.*
- *I saw them as like Mechanical Mice who eat metal*
- *I thought these were pikmin-like characters that had to follow you around! I didn't think they were enemies of any sorts.*
- *Mice thinking the round rock is a wheel of cheese.*
- *Pidgeons or penguins.*

Since the question calls them simply “enemies”, respondents indicated that they weren’t really sure they *were* enemies, which is true; “frenemy” is more accurate, since they are both an obstacle and an ally at different points in the game.

At the conclusion of the game, the player leaves the stone on the pedestal. I asked the following in my playtesting surveys:

How did you feel about leaving the stone behind?

Players reported a variety of emotions:

- *felt nice to jump high*
- *I didnt like leaving the stone behind, it felt like a part of the character*
- *At first I thought it was weird since I needed it throughout the levels, but once I realized it unlocked everything else, I had very little care for the rock*
- *Leaving the rock behind made me think about how I was going to figure out how to bring it with me.*
- *Like I would lose without it*
- *I felt like it was a metaphor for carrying your burdens/regrets etc.. and the entire prior experience is about how when you put down your stone (burdens/regrets) you're lighter and more free. But you can't move one without taking those burdens with you, because they're apart of you and they make you who you are.¹*

Given the following related question:

Describe your interpretation of the game's story. What is the story being told?

Players responded as follows:

- *A archeologists in the ruins finds a stone and has to get out.*
- *You're a little being in an unknown new realm. Your task is to hide your powers with your mask but then show your true potential as you finally don't hide behind the mask. In order to be able to get through this unknown realm, you must carry that comfort zone (or the mask) with you and learn that getting out of it may lead you to success.*
- *From what I gather the main character is a cavemen who addicted with the stone. The player can not leave the level without the stone. The player goes through some different puzzle platforms to try and escape with the stone*

The responses again indicate a wide variety of interpretations, which is the game's desired effect.

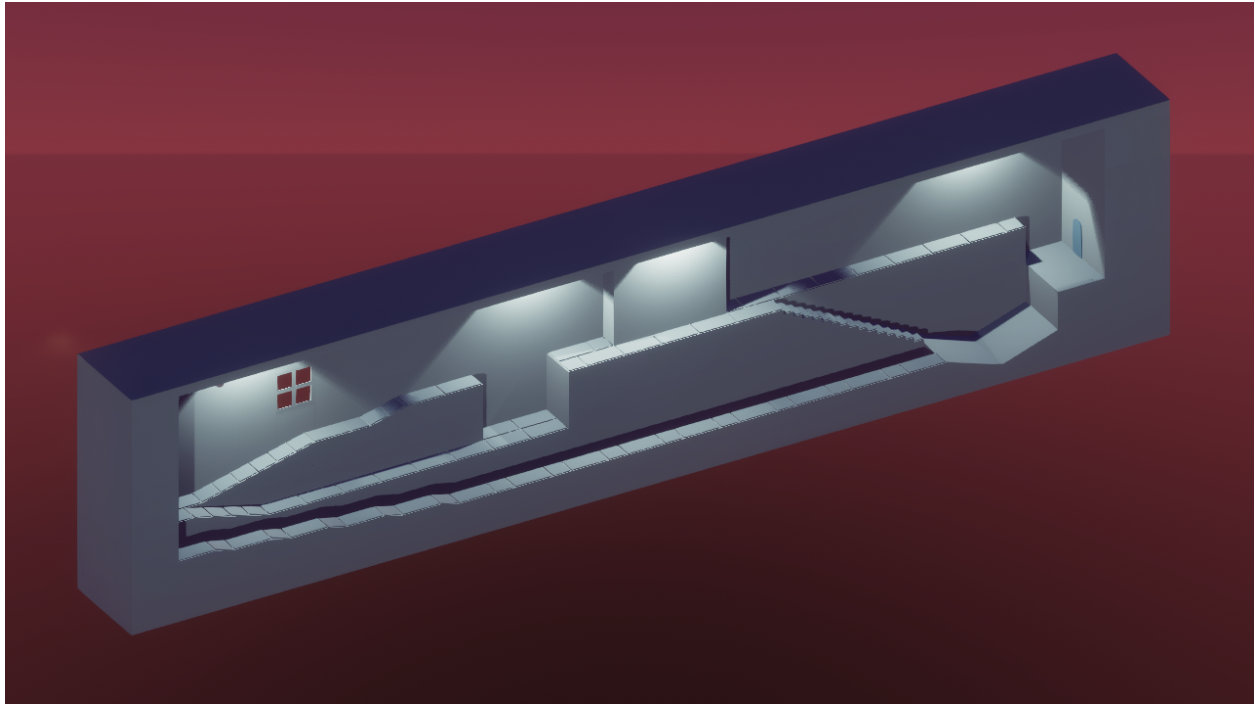
¹ Although this is the response from a player and they are not my own words, this description exactly matches my own interpretation of the game's events and symbolism.

APPENDIX 3: Detailed Game Walkthrough and Level Designs

It is recommended that the reader play through the game personally if they are able to do so. Since it is a puzzle game, the exact play time varies from player to player. First-time players typically take between 15 and 30 minutes to complete the game in its entirety. Readers who are able to play through the game are advised to skip this section in its entirety, as it contains significant spoilers for the game's puzzles.

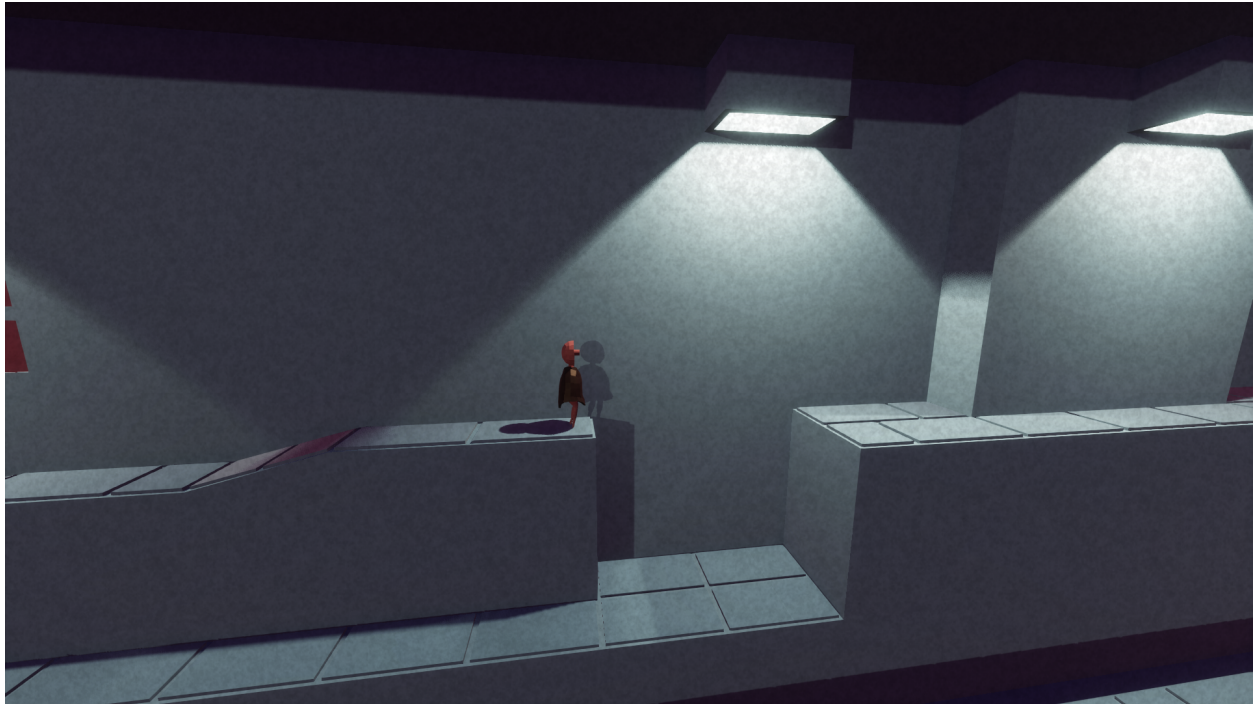
In the event that the reader is unable to play through the game in its entirety or simply would prefer not to, this walkthrough functions to detail the game's major events to better understand the game's concepts.

Room 1 Layout



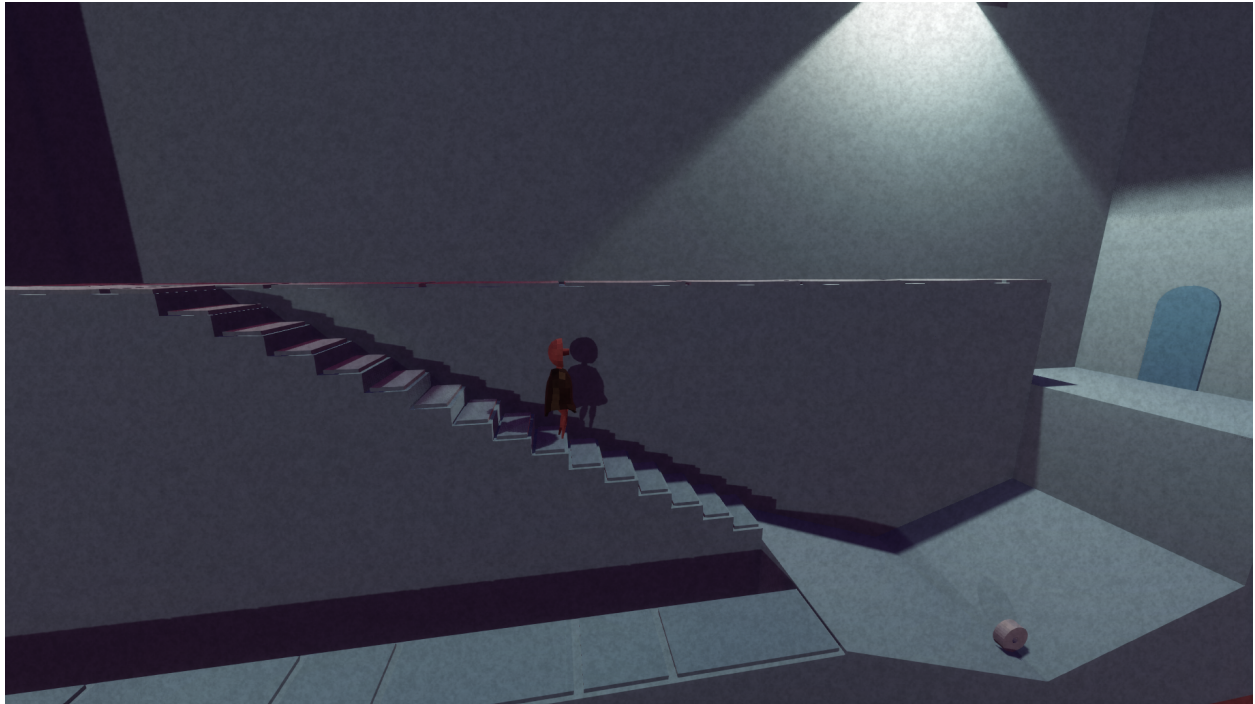
In the first room, the player learns the fundamentals of the game: jumping, changing lanes, and picking up the stone.

Room 1 Detail: required jump, lane change



This in-game screenshot shows the first skill check of the game. This area requires the player to jump this gap, then switch lanes. These small challenges function as guarantees of the players' knowledge; the rest of the game can safely assume the player is capable of jumping and switching lanes.

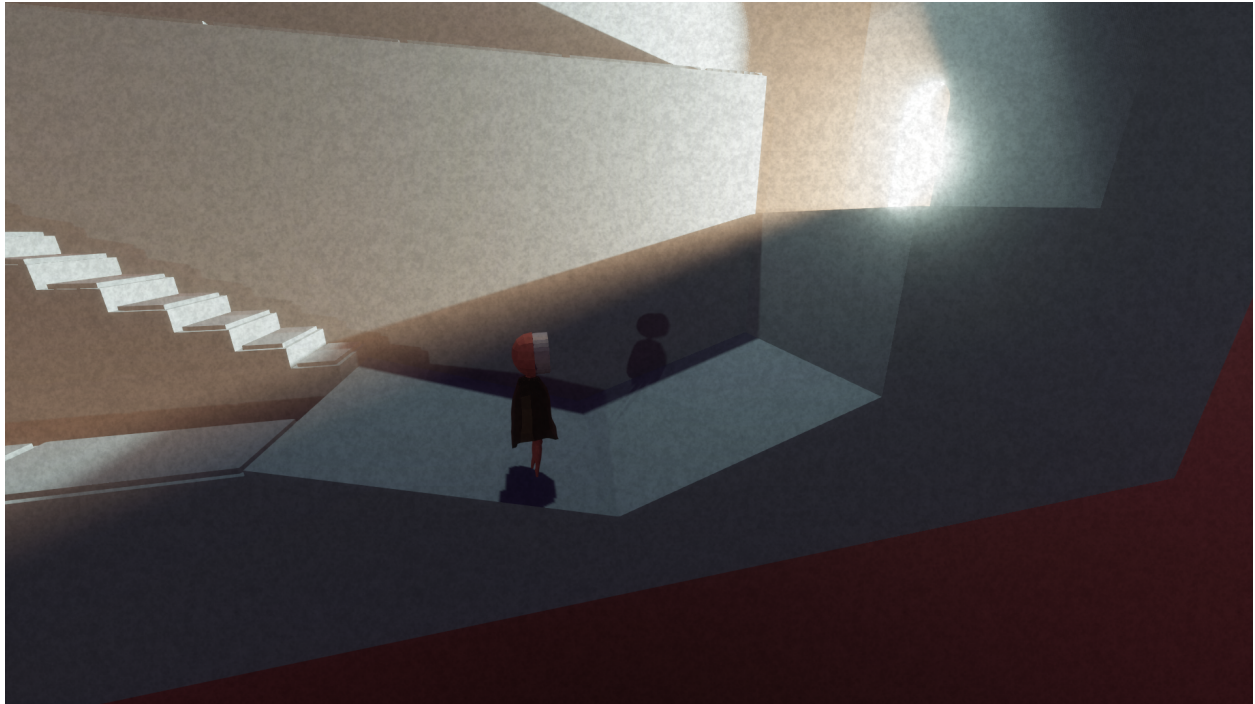
Room 1 Detail: first encounter with the stone



When the player first encounters the stone, the stone is on the ground. In this screenshot, the player, the stone, and the room's exit door are shown.²

² In earlier versions of the game, the player began the game with the stone. Since the player cannot jump while holding the stone, many playtesters first attempted to jump before they put the stone down. Finding that they could not jump, they believed that the game was broken and stopped playing. By starting the player without the stone and requiring that they jump, the player learns how to jump unencumbered before they ever pick up the stone. With that change, most playtesters have demonstrated an understanding that it is the stone that is preventing them from jumping.

Room 1 Detail: opening the door to the next room

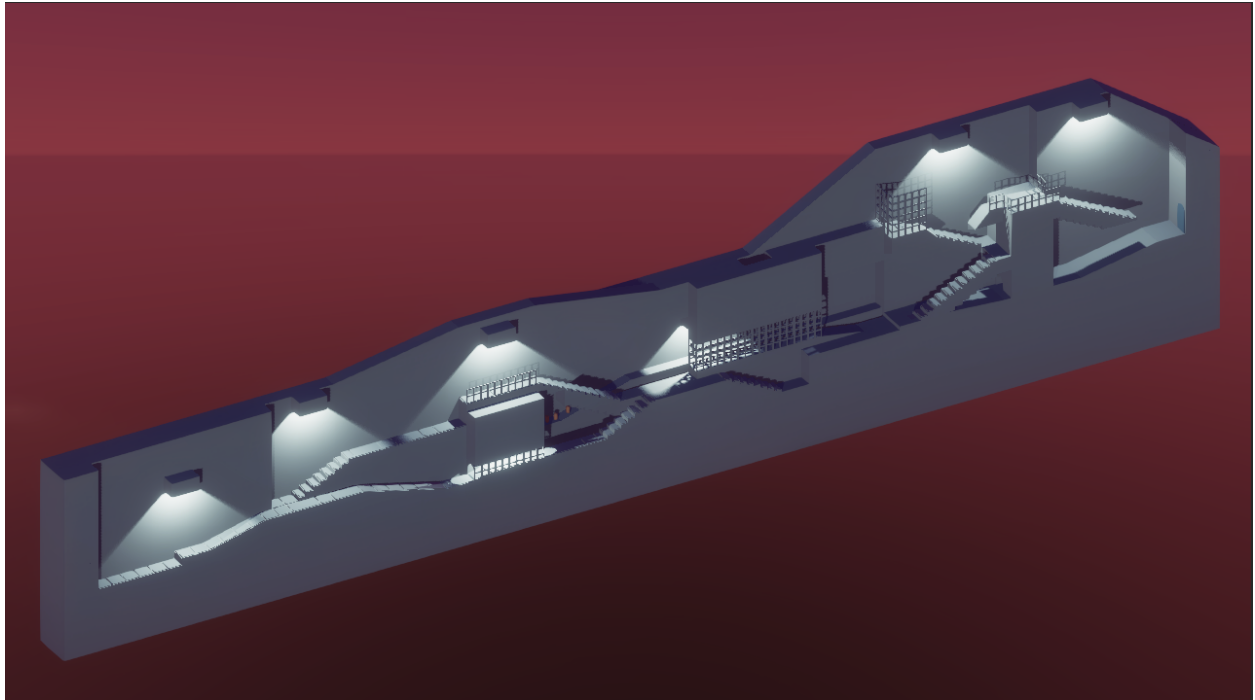


Picking up the stone causes the door to open; the light within the door signals to the player that they can now exit the room. The structure of this room is repeated throughout the game. This structure forms the game's core loop:

- Encountering a new room.
- Surveying the room and analyzing its obstacles.
- Planning a path for the player and for the stone. Every room requires that the player and the stone be separated at some point.
- Both the player and the stone must make it to the exit door of the room.
- The player exits the room with the stone.

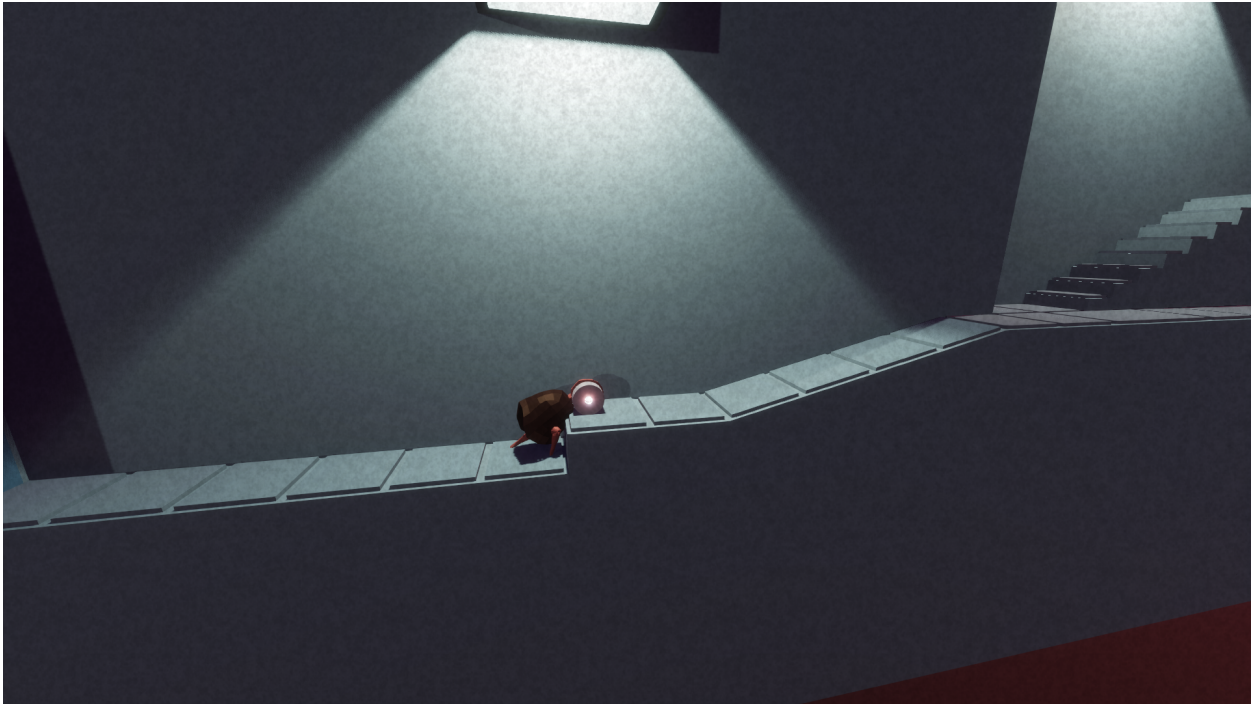
The player encounters this loop in each room. If they make a plan that does not work or they get stuck, they can reset the room at any time.

Room 2 Layout



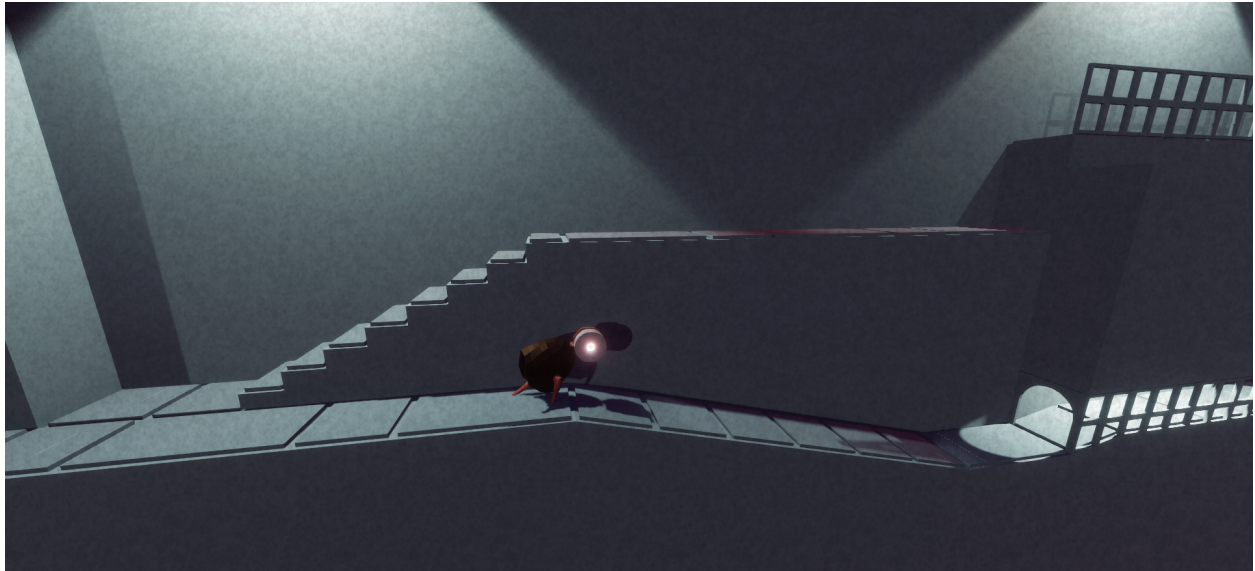
Room 2 is focussed on a series of challenges that all involve putting the stone down.

Room 2 Detail: stone drop

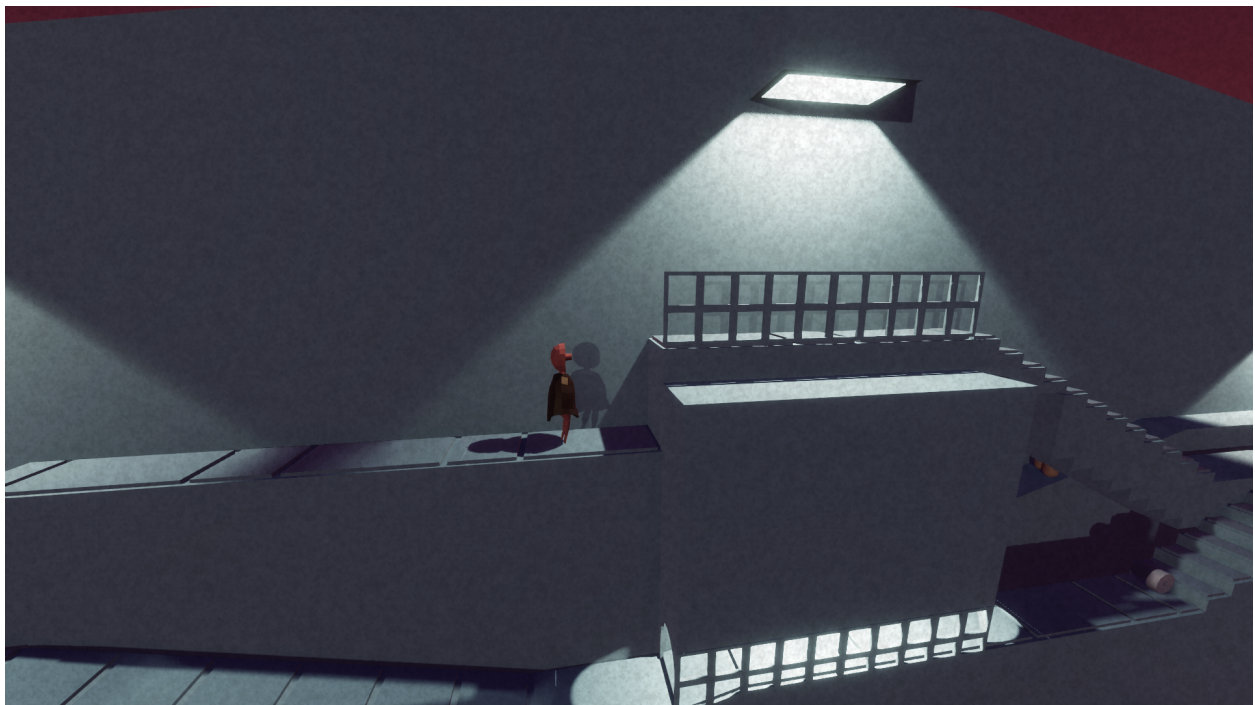


Since the player cannot jump with the stone, but drops the stone at about waist high, the only way the player can go up this section is if they place the stone down and then jump up. From this point on we know that the player knows how to put the stone down.

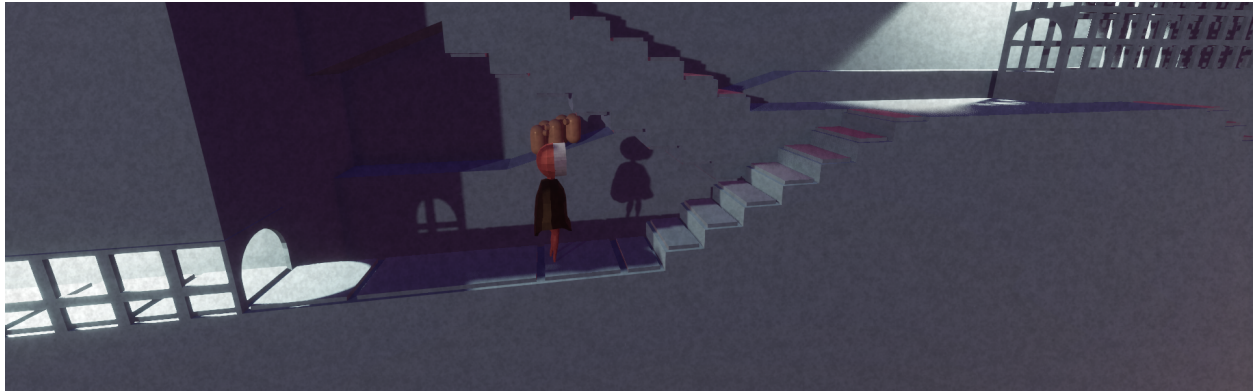
Room 2 Detail: slope physics



Rather than requiring that the player carry the stone, this section requires the player to notice something about the physics of the game. The bottom area is too small for the player to pass through, and the top area is too high for the player to reach while holding the stone (because the player cannot jump while holding the stone). When the player drops the stone at the top of the ramp, the stone falls, rolls down the slope, and through the small section at the bottom.

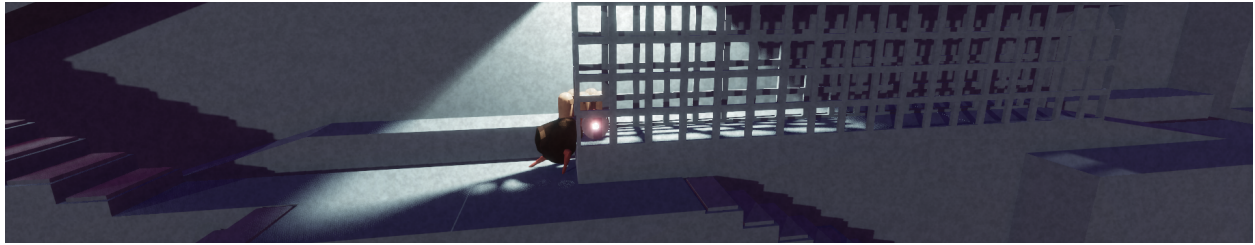


Room 2 Detail: introducing the mites



The mites can be seen in the background, following the player with the stone. The player cannot interact with the mites directly. This area serves to introduce the player to the mites' behavior in safety: since the mites only pose a danger in that they can steal the stone, but they are off in the background, the mites pose no danger here.

Room 2 Detail: mites ignoring player



At this point the player must put down the stone in the middle lane to jump up in the foreground lane.

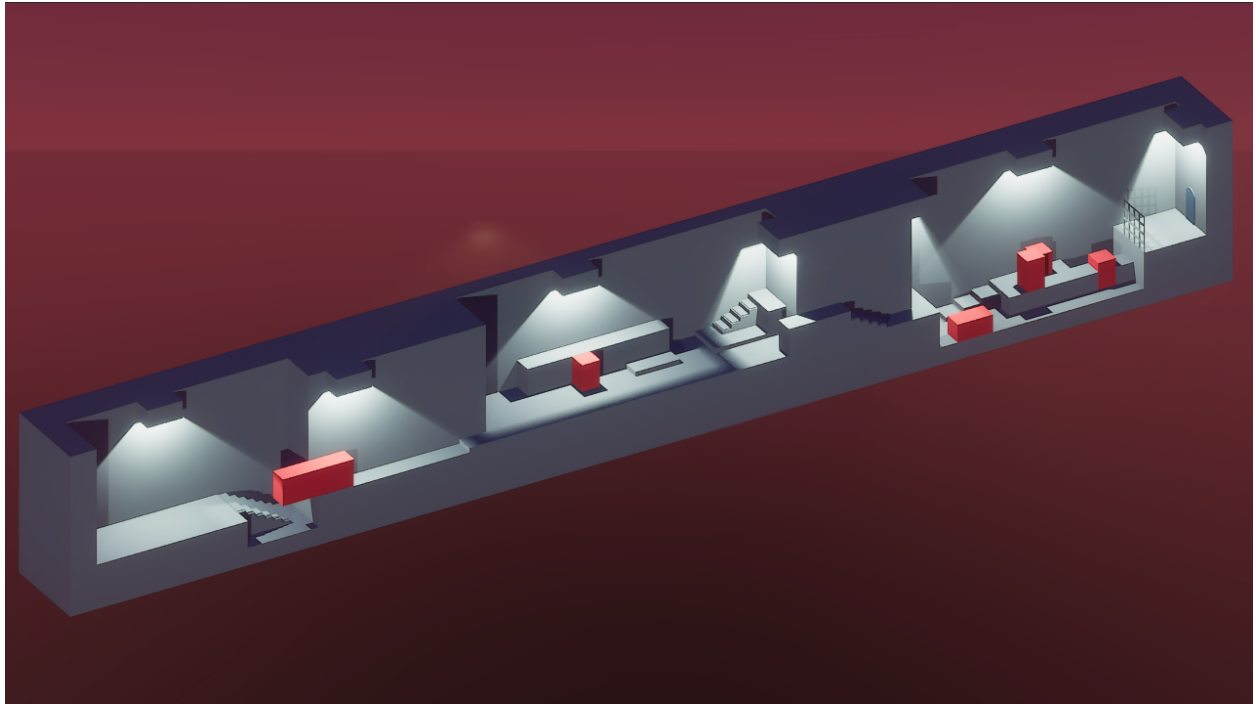


The player hopefully notices that the mites are uninterested in the player when they do not have the stone...



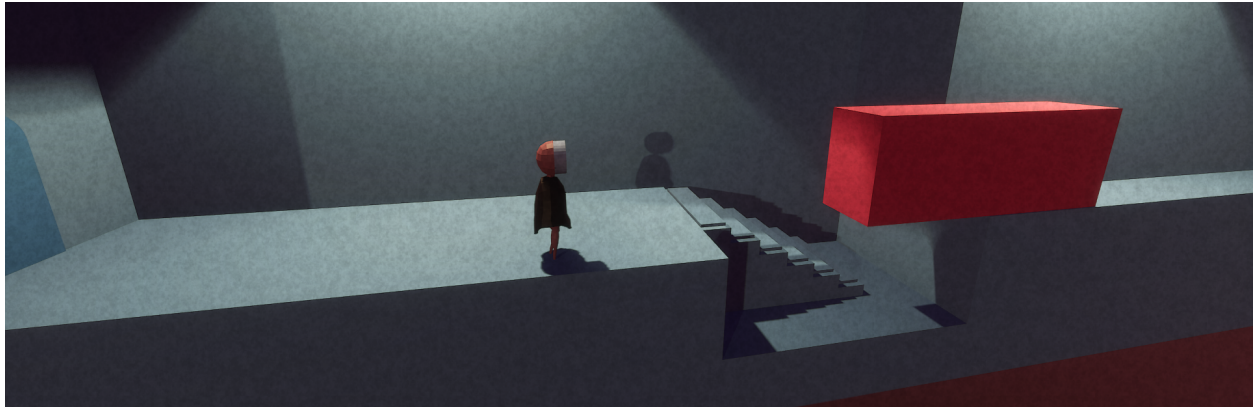
...but follow the player once they have the stone again.

Room 3 Layout

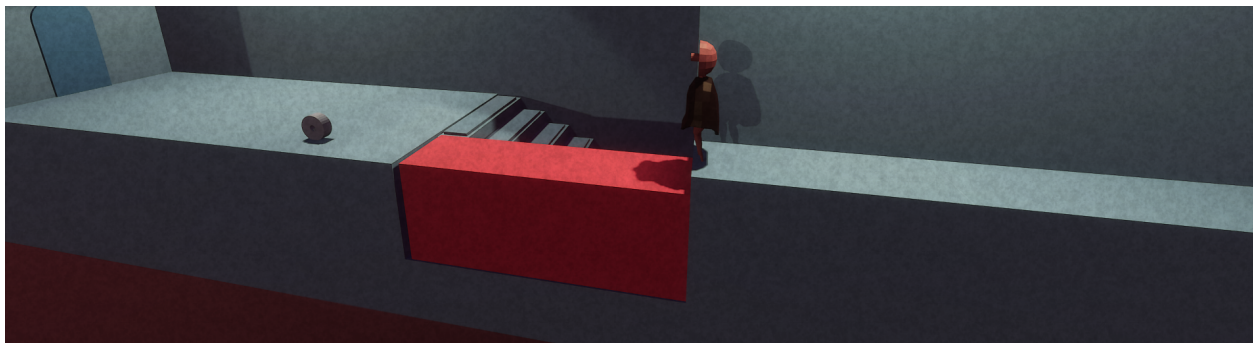
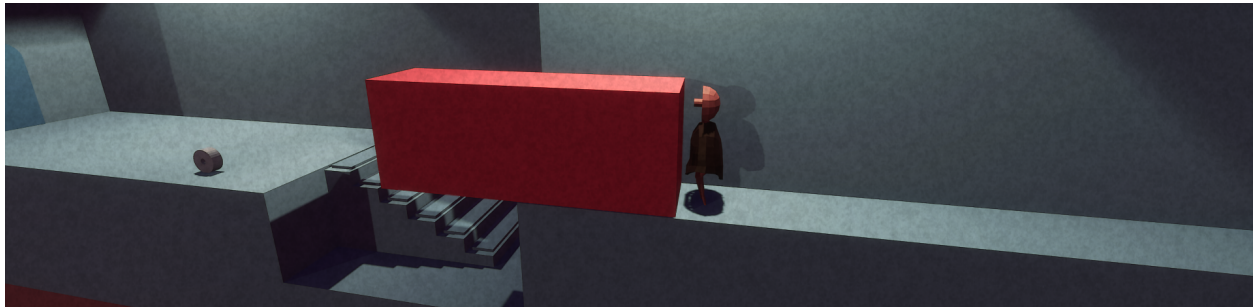


Room 3 involves a series of block-pushing puzzles. There are a total of three challenge areas in this room.

Room 3 Detail: introducing the blocks

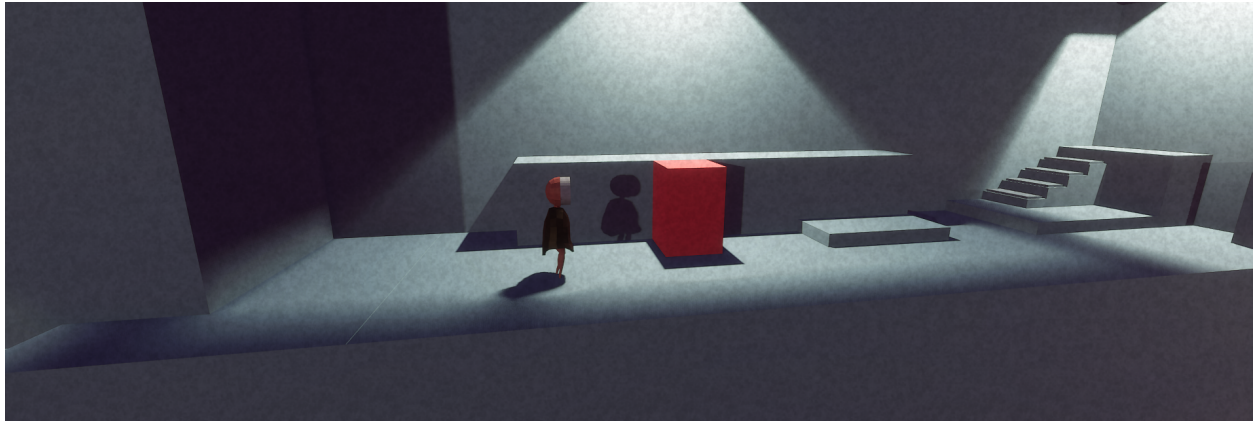


The player first encounters a pushable block that is in a position that they cannot reach *with* the stone. This ensures that the player's first encounter of a pushable block is unencumbered. In playtesting earlier versions, players that first encountered a block while having the stone did not always think to put the stone down to try to push it.

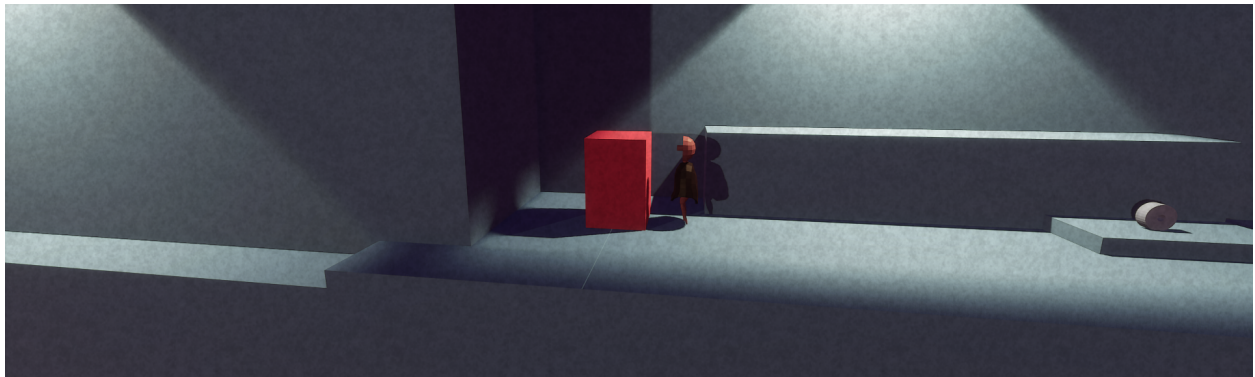


Pushing the stone into the gap allows the player to pick up the stone and cross the gap.

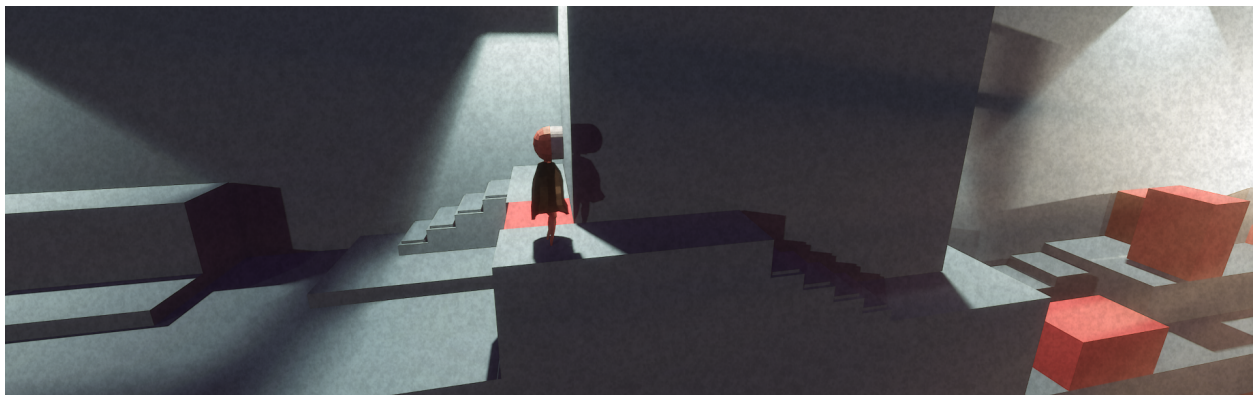
Room 3 Detail: blocks can change lanes



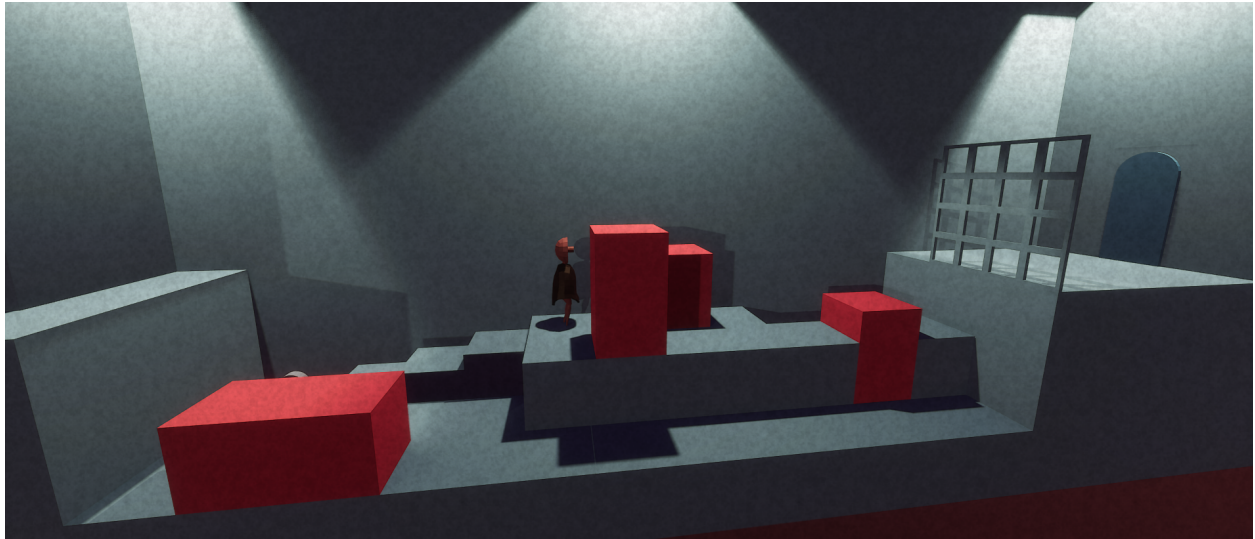
The second time the player encounters a pushable block, they may have the stone. Since they recognize the coloration of the block and know they cannot jump with the stone, players consistently think to put the stone down to push the block.



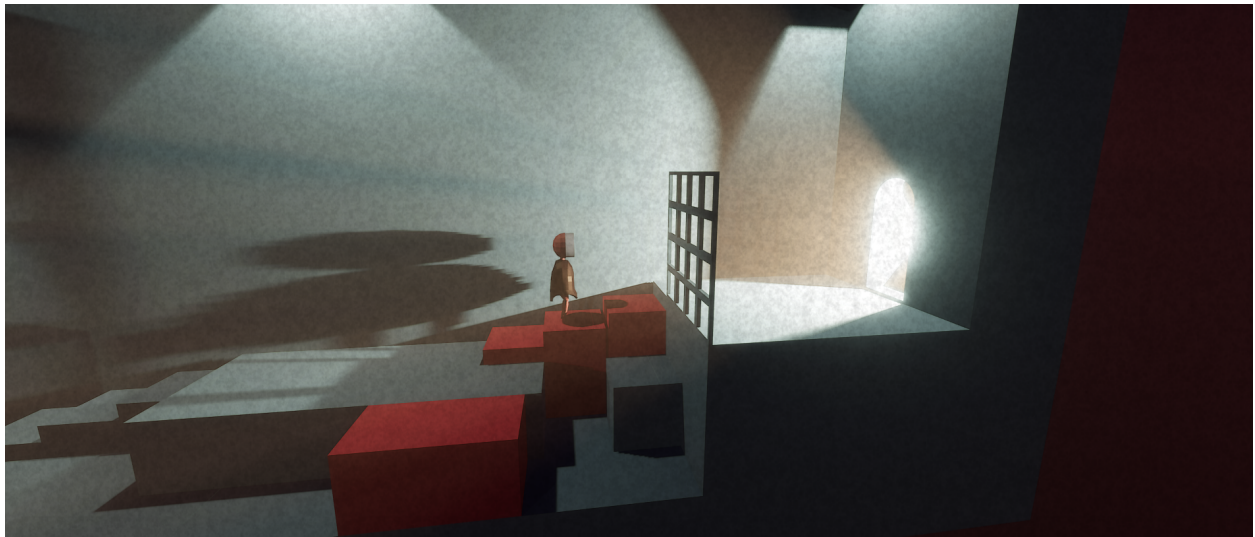
This challenge requires players to move the pushable block between lanes. Pushing the block back in its current lane, then between lanes, and then forward again lets the player fill in and clear the gap with the stone.



Room 3 Detail: advanced block-pushing challenge



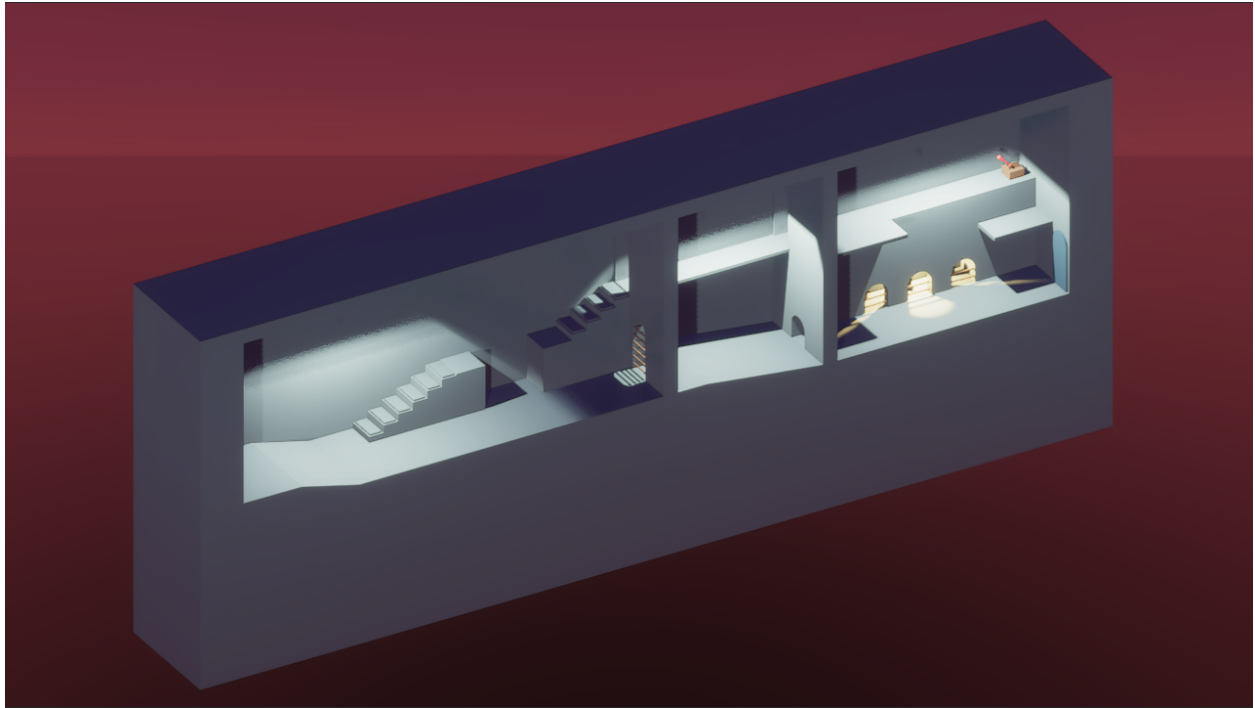
This challenge requires the player to utilize blocks of differing heights to construct a staircase.³ The sequence of moves required to construct the staircase are an exercise left to the reader.



Once the blocks are arranged as a staircase, the player can walk over them while holding the stone to exit the room.

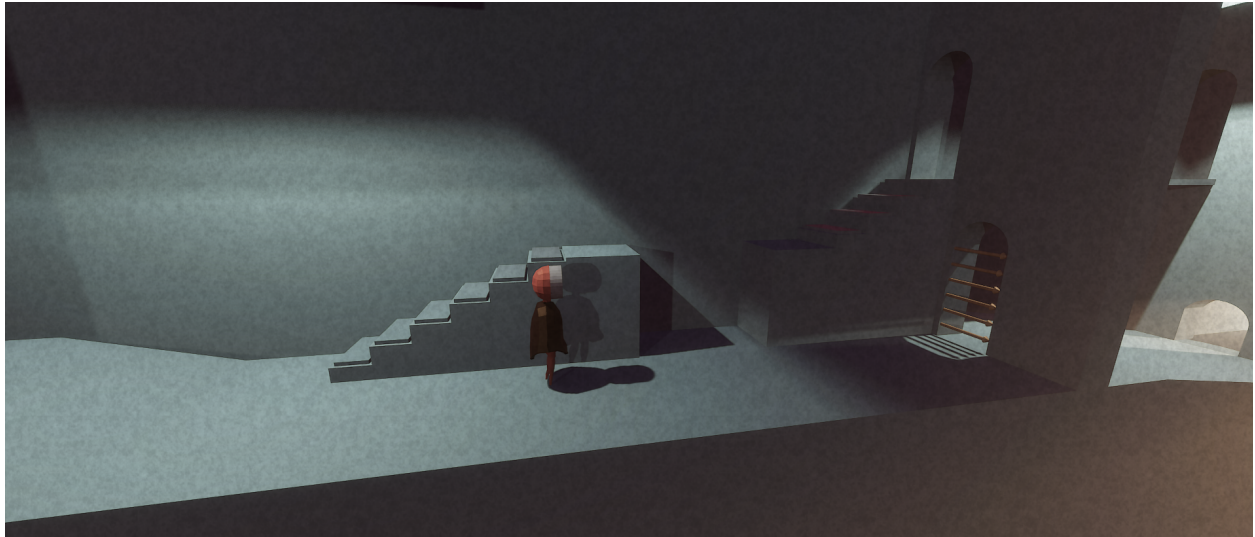
³ This set of block-pushing puzzles was not the first block-pushing puzzle that I tested. I first tested a modified version of the puzzle that now appears in room 5. Many players attempted to construct a staircase, which is a non-working solution for that puzzle. I thought that strategy was very interesting, so I decided to build a puzzle around the strategies that my playtesters were demonstrating.

Room 4 Layout

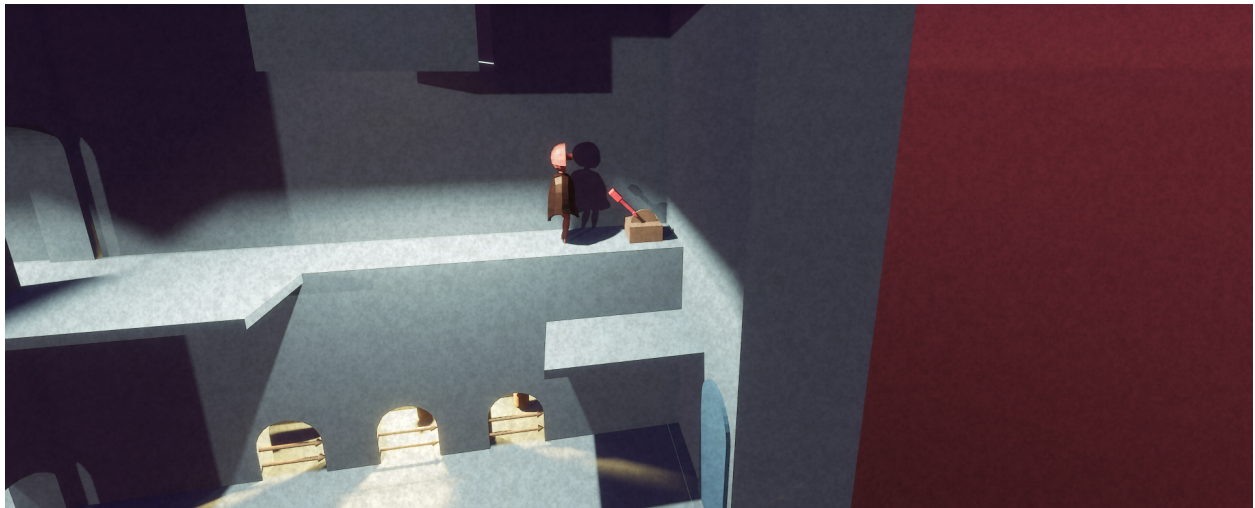


By pulling the lever, the spiked gates open and close. There are four spiked gates in total: one obstructs the player's movement, and the other three obstruct the movement of a trio of mites.

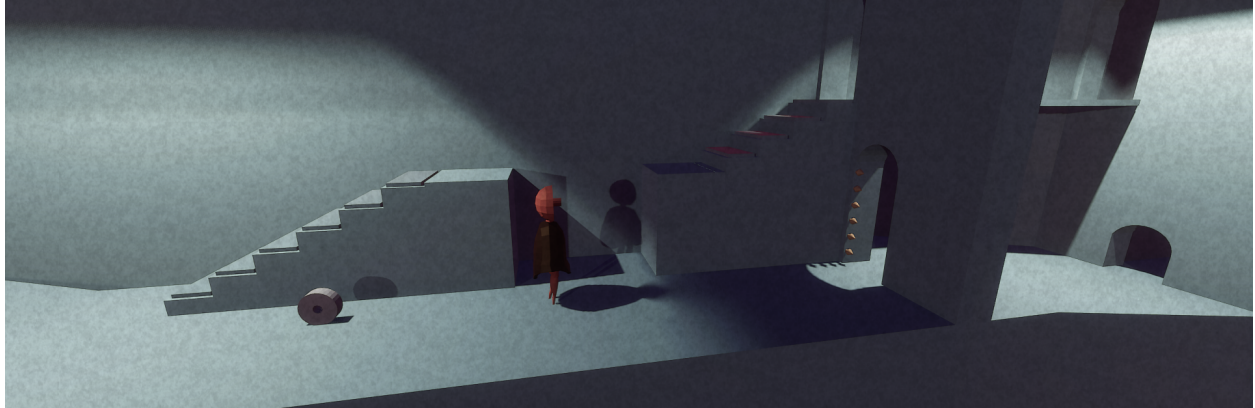
Room 4 Detail: spiked gate



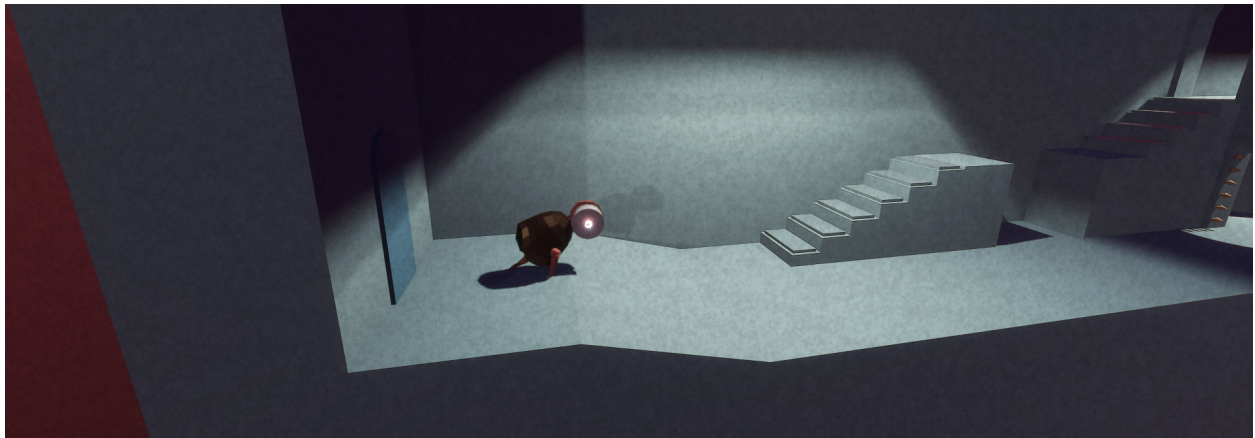
The spiked gate obstructs the player and the stone's movement. The player may only go through the top lane without the stone, since the gap prevents the player from bringing the stone into the second section of this room.



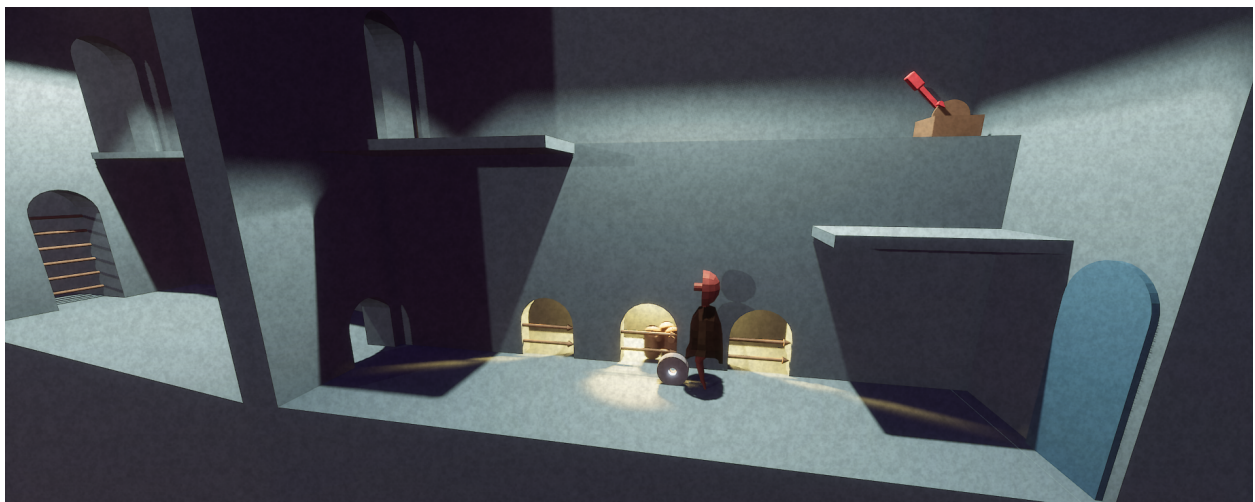
Pulling this lever opens up all of the spiked gates: the one that blocks the player as well as the one that keeps the mites out of the final section of this room.



First the play opens the door...

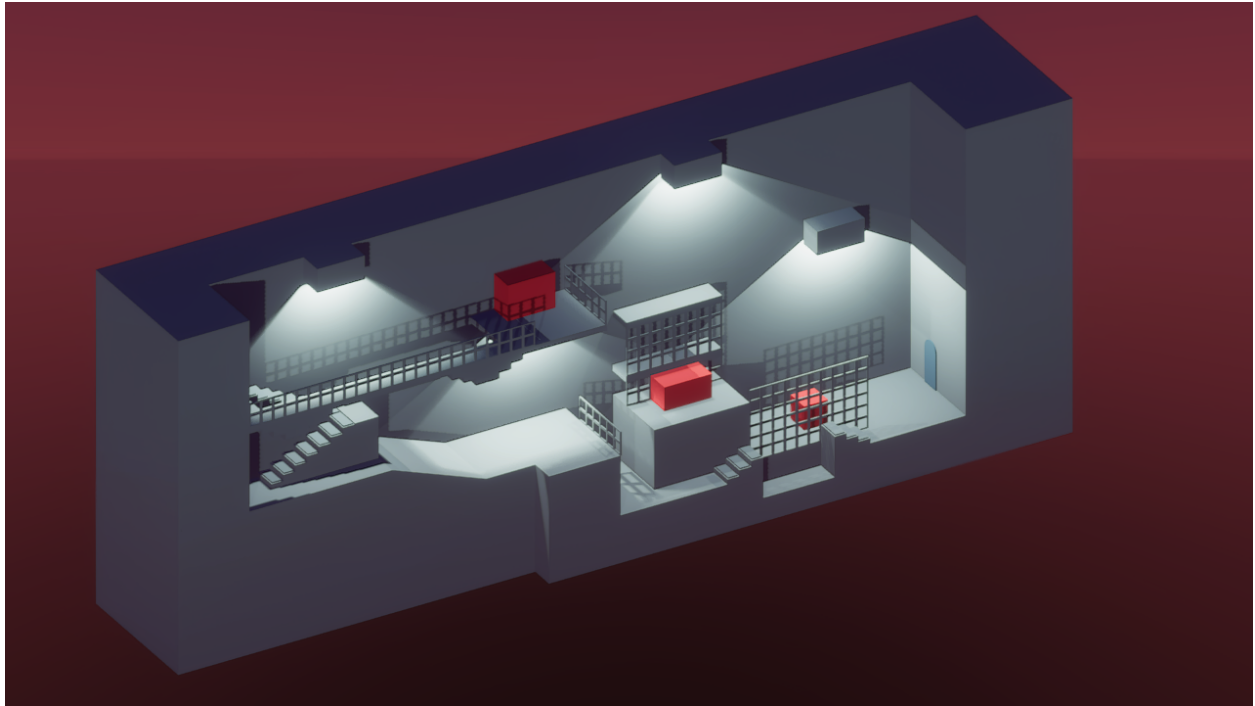


...then they place the stone on the first incline. As it rolls through the now-open gate, the player runs up to the lever...



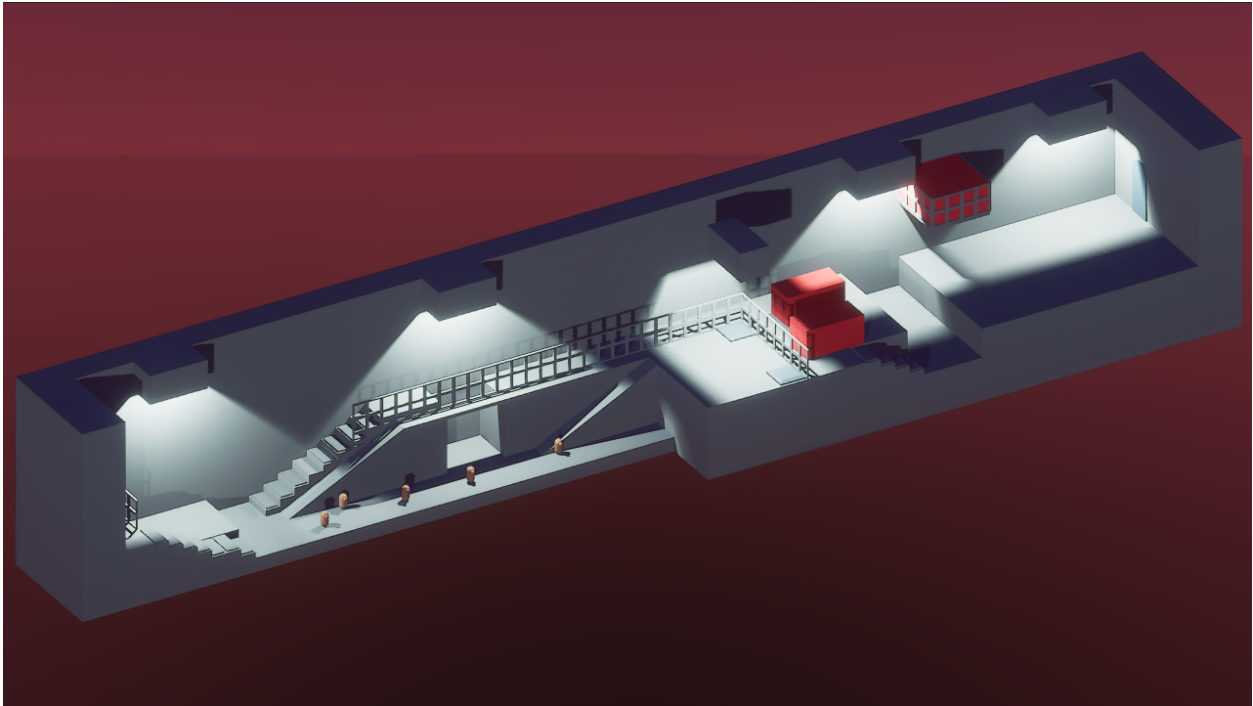
...and closes the gates so that the mites may not come out and take the stone.

Room 5 Layout



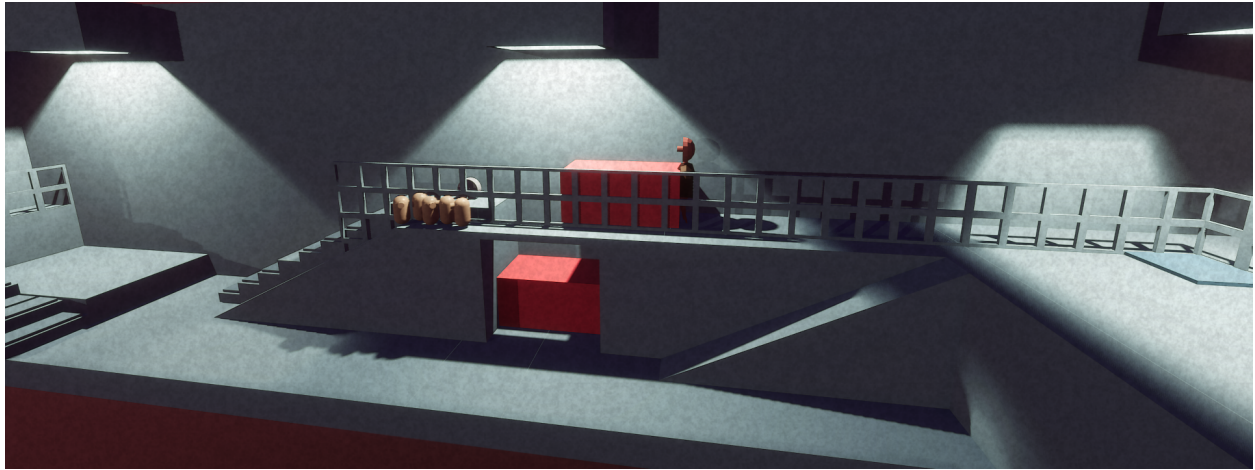
In this room, the player stacks the two pushable blocks and then rolls the stone across their top.

Room 6 Layout

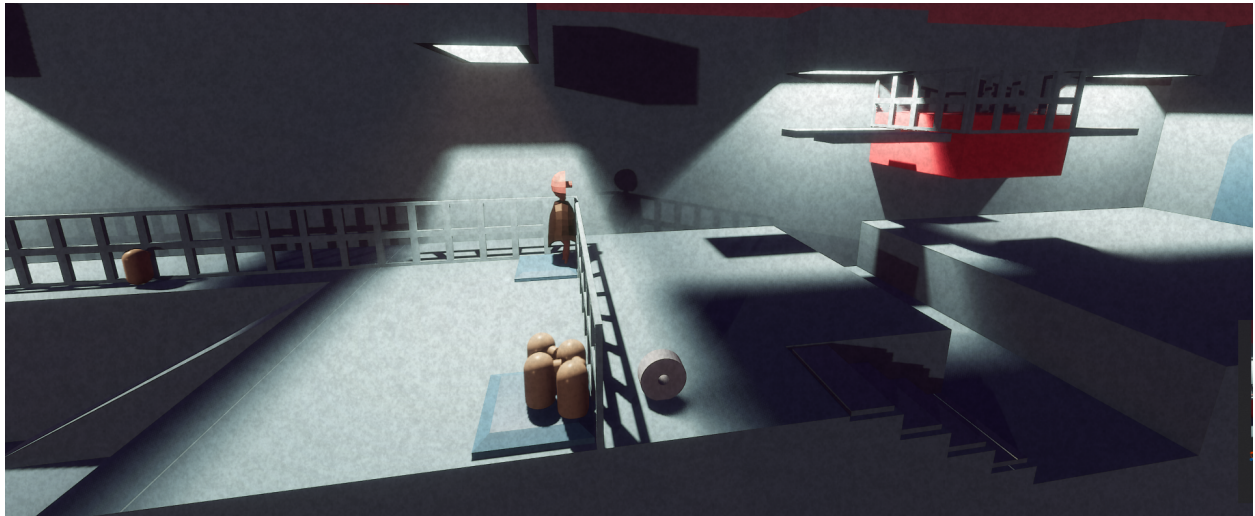


Room 6 also involves stacking blocks. In this level, the player must learn where they can safely put the stone down so that the mites cannot steal it. The two light blue pressure plates release the last pushable block.

Room 6 Detail

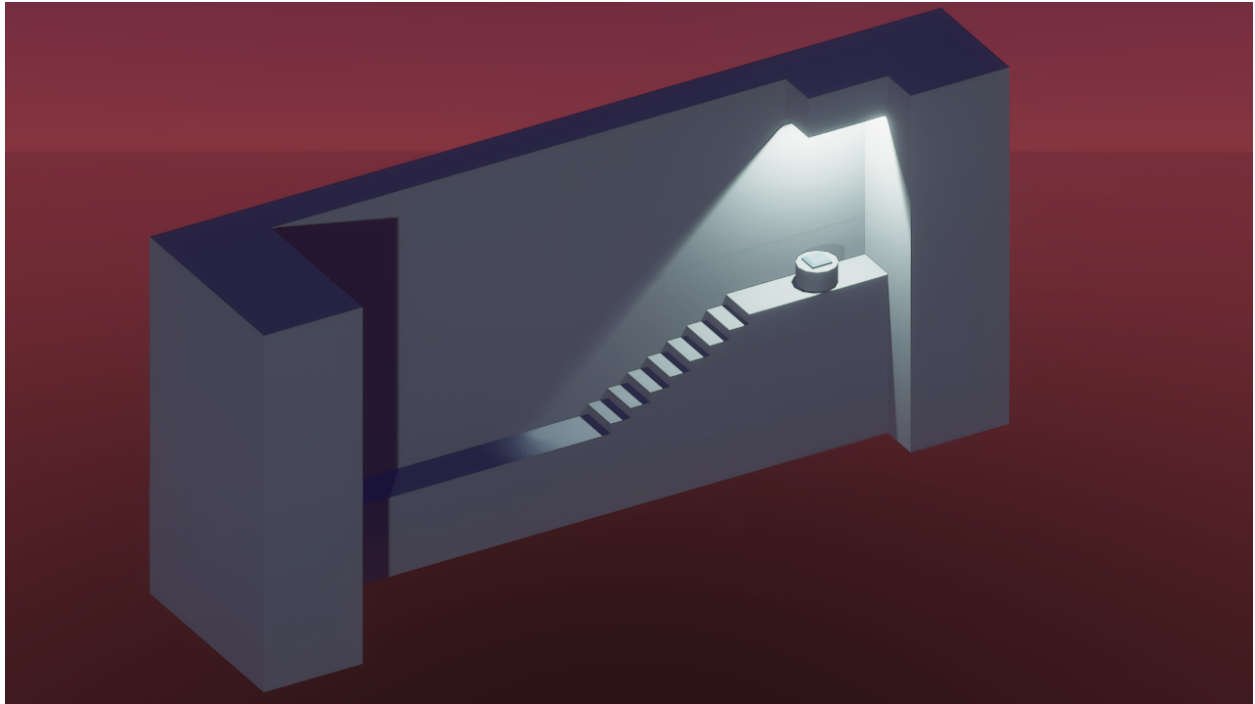


The player stacks blocks to cross this first gap, similarly to the previous room.



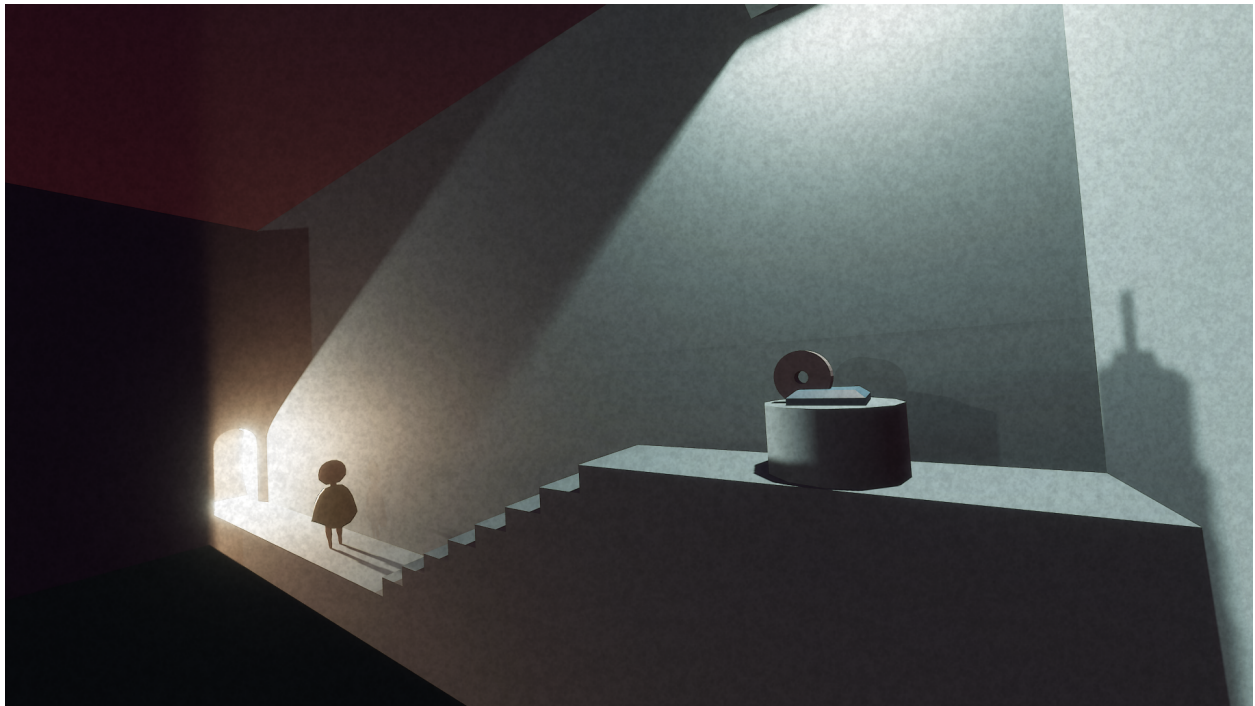
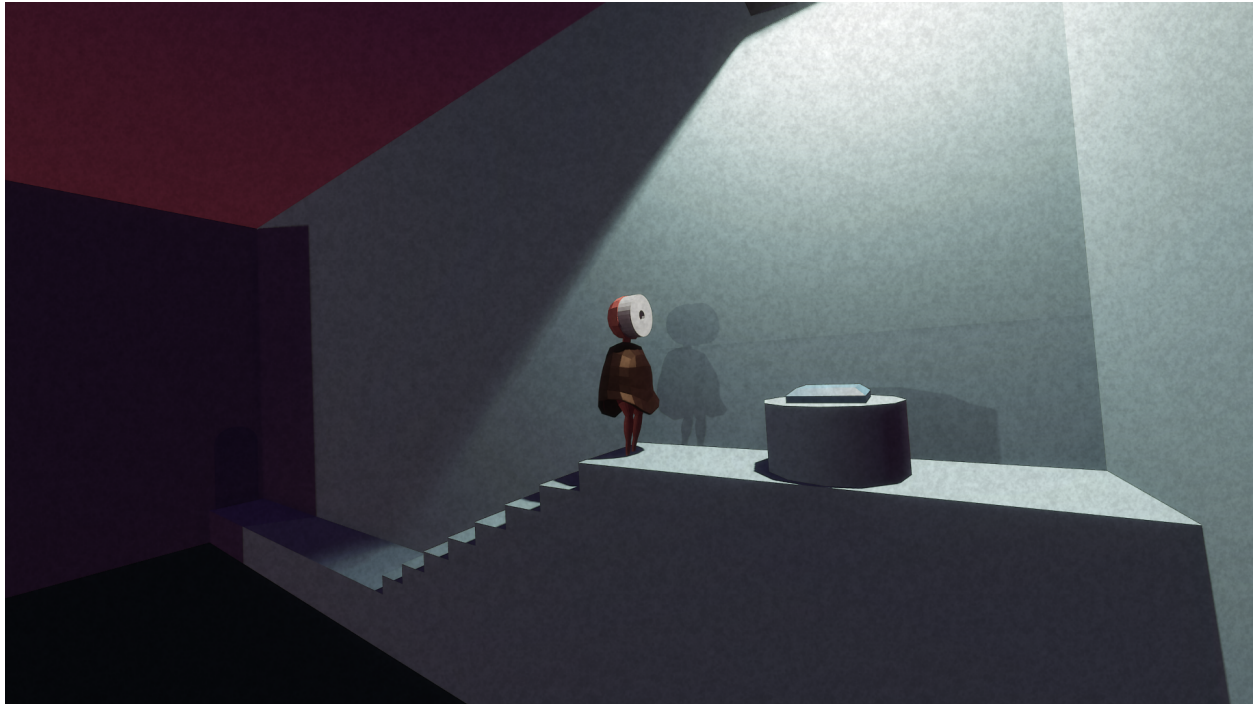
Each of the two blue pressure plates needs to be pressed for the last block to be released. By dropping the stone in the correct place, the mites can press one of the plates while the player presses the other.

Room 7 Layout



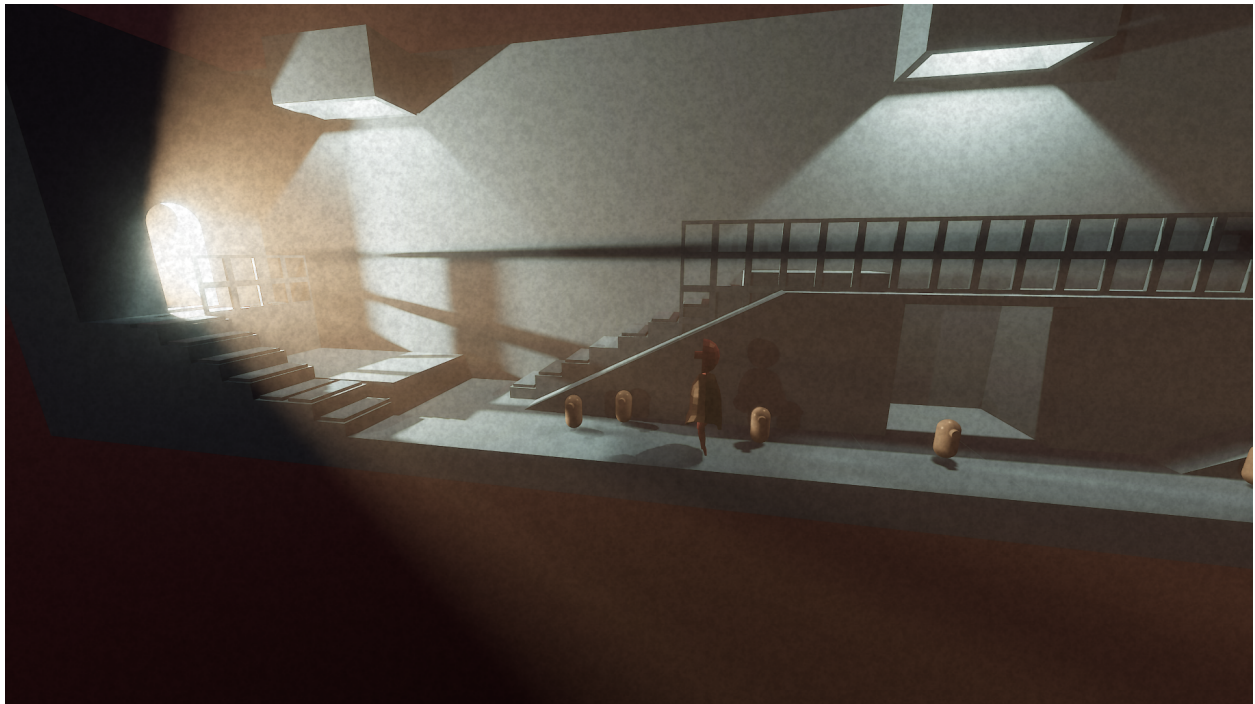
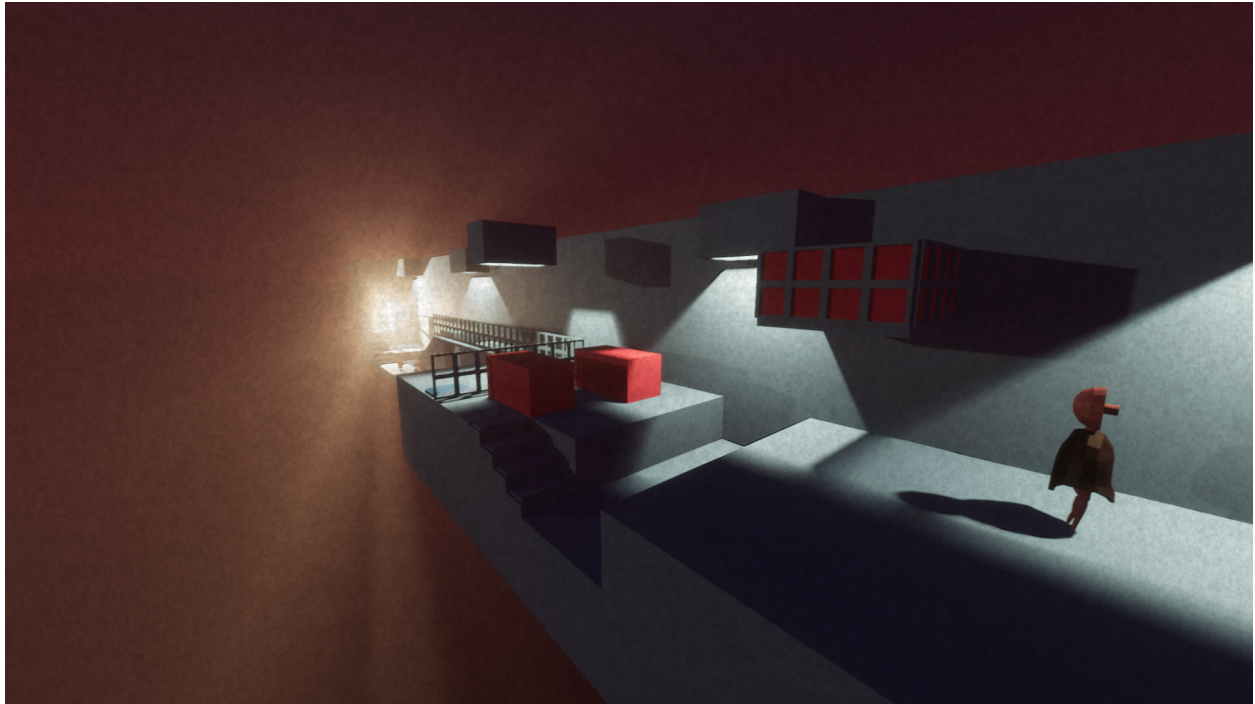
The final room of the game is very small and consists only of a pedestal, a light, and a small staircase.

Room 7 Detail - Placing the stone on the pedestal



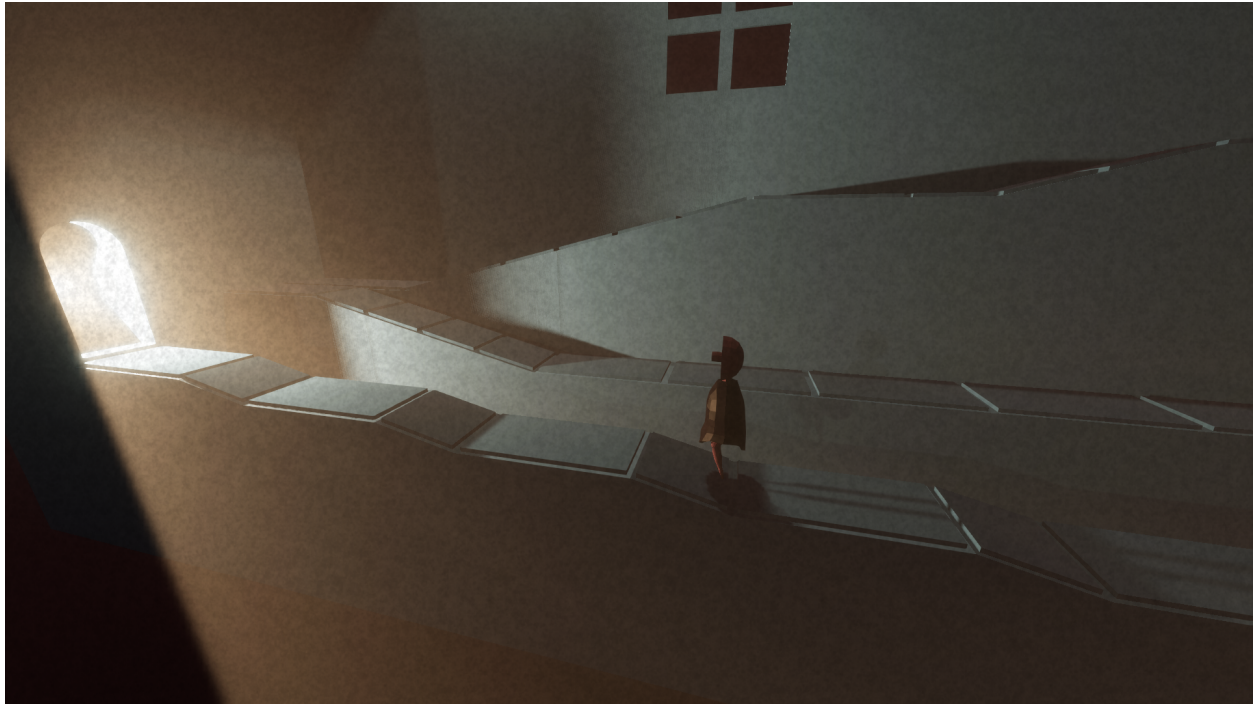
In this room, the player's only option is to place the stone on the pedestal, which causes the room's singular door to open, allowing the player to leave the room *without* the stone. This is the only room in which a stationary camera is utilized.

Room 6 Detail - Retracing our steps



After returning the stone, the player (without the stone) may now traverse each of the preceding rooms in reverse.

Room 1 Detail - the final door



A door in the foreground of the first room is now open. This room has never been utilized by the player before, and may have not even been noticed by the player. As the player walks through this door, the game ends and the credits are shown.

REFERENCES/INSPIRATION

Raiders of the Lost Ark. Directed by Steven Spielberg, Lucasfilm Ltd, 1981
Sokoban. Designed by Hiroyuki Imabayashi, Thinking Rabbit, 1982
Super Mario Bros. Designed by Shigeru Miyamoto, Nintendo, 1985
Excitebike. Designed by Shigeru Miyamoto, Nintendo, 1984
Prince of Persia. Designed by Jordan Mechner, Broderbund Software, Inc, 1989
INSIDE. Directed by Arnt Jensen and Designed by Jeppe Carlsen, Playdead, 2016
Spirited Away. Directed by Hayao Miyazaki, Studio Ghibli, 2001
Pikmin. Designed by Shigeru Miyamoto, Nintendo, 2001